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Land O'Lakes, Inc.
International Development

Final Report

**Dairy Industry Restructuring Project
In Montenegro**

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by Greg Kruse

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Introduction

This report will describe the accomplishments of the Land O'Lakes Montenegro Dairy Restructuring Project. By January 2002 the project had surpassed its original mandate. The description of this is included in Appendix A, *Evaluation Of Land O'Lakes Dairy Industry Restructuring Project in Montenegro* by Greg Kruse.

Funding for the first year of the project was from SEED supplemental appropriations. This project, along with several others, fell within the Results Package titled "Montenegro Community Relief Program". This Results Package was designed to further Strategic Objective 3.1a, "*Immediate Response to and Management of Humanitarian Crises in Montenegro*." Improved milk production and processing techniques generated increased incomes for communities affected by the conflict. At the same time, they increased the availability of locally produced dairy products for refugee relief. After completion of the first year of activities, the subsequent two years of the project were to have been driven by Strategic Objective 1.3, "*Accelerated growth and improved performance of private enterprise in Montenegro*".

The project had four basic pillars:

- Agricultural policy reform
- Cooperative or association development
- Technical assistance in livestock (dairy) production
- Technical assistance in processing

1999 – Getting Started

The project started belatedly in August 1999 because of the Kosovo conflict. At the time, only a handful of Americans were in Montenegro with no presence of USAID or the State Department. Intermittent meetings with the two agencies were held in Dubrovnic, primarily to discuss security and political issues that might affect project implementation. Early in 2001, USAID/Pristina was given oversight of the project. The objectives of the Pristina mission did not include agriculture but focused on macro economic reform. Land O'Lakes continued to rely on our CTO in Washington for guidance and support.

It is important to remember that all American implementors in Montenegro at the time were subject to arrest by federal authorities but had the support and protection of the Montenegrin government. The opposition parties were avid supporters of Slobodan Milosovic. Threats were not uncommon during this period. The VJ (federal army) and Montenegrin police force were at a stand-off. In this atmosphere, Land O'Lakes maintained that it was allied with neither the government nor the opposition. As such, we were able to work in clans such as the Kuci who took almost six months to provide an invitation to come up into the mountains since they were anti-American at the time. Also, bear in mind that although Montenegro was not a primary target during the bombing, some bombs did destroy houses in Danilovgrad and a primary school in Murino. Four children were killed in that accident and the story was widely circulated in Montenegro. In these conditions, Land O'Lakes/Montenegro's first objective was to become accepted and trusted by the population.

The political climate was tense, as the police force of Montenegro was the countervailing force to the federal army (VJ). In fact, on December 17th of 1999 the two forces had a standoff at the airport and the State Department called Land O'Lakes/Montenegro and suggested evacuation. The project personnel stayed put, but developed emergency plans. This was the mood that was to prevail through local elections held in the spring of 2000, and finally the fall of Milosovic in the elections in the fall of 2000.

The situation in the dairy industry was different from some of the basic assumptions made in 1999. For example, the government set the price of milk at both the retail and farm level. The price at both ends was identical at approximately .35 DEM per liter. Neither the farmers nor the processors would produce at these price levels. A host of incentives was provided by the government to assure minimum acceptable production levels. Both farmers and dairies would threaten strikes to obtain higher prices. In turn, the government would accede to their demands in an attempt to maintain social stability by providing affordable food staples. The average wage of workers was under \$100 per month. Inflation was over 25 percent. People held vivid memories of the hyperinflation of the early 90's in which most people could not afford to buy an orange and many lost their life savings. So, the government gave production incentives through a host of subsidy programs to farmers and processors. This amounted to over 1.8 million DEM (almost \$1 million). It worked to the extent that there was no severe shortage of dairy products, and it seemed that the system had worked out approximately how much to produce. The problem was that Land O'Lakes/Montenegro found it was largely unprofitable and unsustainable.

A baseline study was completed and it found there was little reliable information being reported on which to base production or processing progress. This was due to tensions between Belgrade and Podgorica. The last reliable information dated back to pre-breakup Yugoslavia where federal services had a reliable reporting system in place. This system broke down as the country split and slid into a series of wars. In essence, the baseline recorded the deteriorated state of what was left of the dairy sector. Most state-run plants were closed or crumbling. Private entrepreneurs were making money but no information could be obtained because they feared reprisals from the financial police if true production and financial figures were known.

For example, the government had an 80/20 rule that made subsidies available to plants that put 80 percent of their milk into pasteurized fresh milk. The price of fresh milk was regulated. Yogurt, the other primary product, was not. Common practice was to report 80 percent of the milk being put into fresh milk while actually processing up to half of it into yogurt. Every dairy had at least two sets of books: one for the financial police, one for the Ministry of Agriculture, and perhaps a third for actual management. Only one of the 16 plants was willing to share the full set of books on condition we kept the information confidential. This meant we could not use it, because any mention of their data would immediately be traceable. The Republic is too small for anonymity.

The project immediately teamed up with the OBNOVA project of the EU. They were in the process of importing 1,000 bred heifers to Montenegro. Land O'Lakes/Montenegro provided technical assistance in livestock management and worked with Montenegro Bank to develop information seminars on the loans the farmers would have to repay. This provided an excellent opportunity for project personnel to get to know farmers throughout Montenegro. Because of this program the project expanded from a focus in northeastern Montenegro to a Republic-wide program.

As a result of the information gathered during the collaborative effort with the EU, the project then turned to solving the most pressing issue presented by Montenegrin farmers, feed procurement. Aside from natural pasture and meadow hay, little feed is produced in Montenegro. The Republic imports almost all its concentrate feed. This market was controlled by a handful of traders and state-run or newly privatized mills. The price was kept artificially high with the farmers locked out of importing directly or negotiating with the mills. Traditionally, the only recourse was for farmers to organize a "milk strike" which would put a strain on milk supply to the dairy plants which, in turn, provided basic dairy products to cities and factory workers. Not heeding admonitions of the government, Land O'Lakes/Montenegro made contact with the group which had successfully organized a milk strike in 1998-99 to raise the price of milk.

Late in 1999, the project contacted and opened discussions with the group of farmers who organized the milk strike of 1998 over the concerns expressed by the government of Montenegro. This was perhaps

because some of the organizers were adamant members of opposition parties. Nevertheless, discussions went forward.

The project explored working with "zadrugas" (state cooperatives) which was a traditional means of organizing community that dates back to the ninth century. Tito adapted this structure to give it a more communistic flavor. But the conclusion of the project, based on discussions with farmers, was that it was organized from the top down and the popular opinion was that it was difficult if not impossible to reform. The party chose the presidents who chose the board who in turn approved membership. There was little room for grassroots input. But, this was the only organizational structure known to the population.

Over the next six months Land O'Lakes/Montenegro worked with the farmers to help them understand how a truly democratic cooperative should operate. At times, the task force of farmers balked at making fundamental changes. In some cases talks broke off only to resume again in a few days. Using the new NGO law established in 1999, a new statute was written for farmer associations. This provided for the direct election of four officers (president, vice president, secretary and treasurer). In addition, six board members were recommended to be elected to a three-year term, with two being elected each year. Traditionally, the president was elected for five years and appointed the other officers and board members. The statutes provided that treasurers must report on the use of funds at regular meetings, thus providing for transparency. Traditionally, treasurer's reports provided little useful information for the membership to make informed decisions.

The group with which the project developed the new statutes considered itself to represent all farmers of Montenegro. But it soon became apparent they did not. Each member of the committee claimed to represent a different area of Montenegro. But upon investigation, we found that many did not appear to have wide-based support. They were asked to go back to their communities to organize true grassroots associations. At the same time emphasis was placed on the associations being apolitical, although we knew they would naturally form along clan or party groupings. The only criteria was that meetings were to be open to all and transparent.

In technical assistance, the first three employees hired were degreed in animal husbandry or veterinary medicine. Finding personnel with training or background in food processing proved difficult. The first person found came from the Biotechnical Institute. He was primarily an animal scientist but had focused his research on traditional cheese production. We found two more food scientists at the University of Novi Sad. During this period travel to Serbia was impossible for expatriates on the project, but the head of the department was very helpful, and via telephone conversations, she sent two of her best graduates to Podgorica for interviews. We hired both. This happened in January-February 2001.

Two teams were developed. One would work with farmers and the other with processors. Neither team had any concept of training nor education as practiced in the west. Their orientation was magisterial where lectures are given and technical articles disseminated with little or no follow-up work in the field. It would take two years to break these habits and re-train the staff.

1999 closed with an evacuation advisory issued on December 17 when the VJ army and police had a standoff at the airport. Project personnel stayed and the tension subsided without incident.

2000 – Developing the Program

The beginning of 2000 found the project:

- embroiled in discussions with farmers to hammer out a new statute for farmer associations;
- in intense discussions with the government to develop a free milk market;
- conducting seminars in conjunction with the EU OBNOVA project;
- searching for food scientists to work with dairy plants; and
- USAID establishing a team in Dubrovnic to work on macro-economic reform.

In January, three more staff members were hired to complete the Land O'Lakes team. The first, Slavko Mirecki, came from the Biotechnical Institute. He had both animal science and research experience in traditional cheesemaking. He, in turn, helped find two more food science technologists. We had to go to Novi Sad to find them. A phone call was placed to Mariana Caric, head of the Food Science Department at the university who recommended two of her top students who currently held jobs. We hired both. Now the Land O'Lakes staff had two teams. One team's focus was farmers and the other focused on dairy processors.

In March of 2000, Land O'Lakes submitted a proposal to expand the scope of the project, based on the response the project was getting from the farmers to include activities in horticulture. The idea was rejected by USAID/Pristina.

The political situation was tense throughout the year. Two elections were held during the year. The first were municipal elections for Podgorica and Herceg Novi, and the second were the Yugoslav federal elections, which brought Mr. Kostunica to power. The hopes of the international community was for Dukonovic to maintain power and control of the republic and not lose to the SNP which was a pro-Milosovic, opposition party supported by Belgrade. The government maintained control through the spring elections.

In the fall federal elections, Milosovic was toppled. The climate in the country was very tense. This seemed to present a dilemma to the international community. Virtually all projects suspended activities until the situation could be assessed. During the week of elections, most of the staff stayed home and the office files and computers were stowed in an apartment in Budva just in case violence broke out. In the week running up to the election several incidents happened that caused concern. However, Land O'Lakes continued with its program, unchecked by the political events. It is important to realize that the project was working with associations who had members in some cases that were predominately SNP and others that were DPS. Plus, some were Muslim and others Orthodox. The National Association managed to hold everyone at the table by focusing attention on agricultural issues and not political infighting. This was a major accomplishment that was recognized by the government.

In December, Land O'Lakes resubmitted a request to broaden the scope and extend the project at the behest of Ambassador Richard Sklar. Land O'Lakes realized that although the associations were growing very quickly, it would take at least two years longer to conduct the training necessary to give them a chance to be sustainable. Additionally, both the Ministry of Agriculture and the Farmer Associations were requesting assistance in early season fruit and vegetable production, which had been an important sector of agricultural production but currently needed to be totally rebuilt in terms of markets and technology. This proposal was also rejected by USAID, Pristina.

Agricultural Policy

The Minister of Agriculture (Milutin Simovic) and Milan Markovic (Animal Science Researcher at the Biotechnical Institute) went to the United States on a study tour accompanied by the project director.

They were shown how the dairy industry works in the US from the cow to the consumer. They also had an opportunity to visit cooperatives and speak with farmers on issues confronting American agriculture.

The trip demonstrated the direction that Land O'Lakes could lead Montenegrin agriculture. Not long after their return work was begun on piecing together a new agricultural policy that would allow for free milk pricing. Many elements were lacking that would allow for fair pricing of milk.

Payments needed to be based on milk quality. At the time, processors tested the farmers' milk. This was akin to leaving the fox in charge of the chickens. Farmers did not trust their tests and there was ample evidence to support their claims. An independent laboratory was needed since none of the government agencies had the capacity to do the regular, widespread testing required.

At the same time, farmers needed reliable, regular testing of milk to improve their herds and milk quality. Again, there were no labs with this capability.

Toward the end of 2000, FSP (the EU Food Security Program) started up with the intent of eliminating subsidies in the dairy industry in exchange for budgetary support. In close collaboration Land O'Lakes/Montenegro, a strategy was devised to provide the Montenegrins with the means to go to a free milk pricing policy and the elimination of incentives or subsidies to both producers and processors. The centerpiece of the strategy was the establishment of a central milk testing laboratory modeled on the DHIA (Dairy Herd Improvement Association) system in the USA, combined with the milk testing labs used by US dairy plants for payment. Land O'Lakes/Montenegro set up the lab and served on the equipment selection committee. The result was that the EU financed a \$400,000 laboratory capable of processing 800 samples daily. This would eventually serve the needs of both farmers and dairy plants.

At the same time, the Ministry of Agriculture decided to finance the "Selection Service", a concept developed by Milan Markovic based on his observations of the DHIA in the United States.

Milk pricing was at the center of agriculture policy issues. The 16 dairies fell into two categories. The first consisted of state dairies or recently privatized ones that still had traditional management practices. The goal of these plants was to break even and to produce four to five basic dairy products that included plain yogurt, fresh pasteurized milk, butter, cheese, and sour cream. There were only three to four dairies that fell into this category, depending on how one would determine privatized dairies. It is important to remember that when the factories in the Republic were in full production, the dairy industry was not regarded as a business, but rather a supplier of dairy products. Making a profit was prohibited.

The second category of dairies was the private dairy enterprises entrepreneurs that had sprang up around the country. They processed less than 1000 liters per day. The majority of their milk would go into fluid yogurt, even though they reported 80 percent was going into fresh fluid milk.

The price of fresh milk was set by the government at the farm gates and retail level at virtually the same price of .35 DM per liter. The rest of the products were allowed to be priced by the dairy. Dairies could receive subsidies from the government if they processed 80 percent of the milk into fresh, pasteurized milk usually sold in PVC pouches. That supposedly left the balance of 20 percent of the milk for them to make what they pleased.

The most telling statistic to keep in mind was that commercial dairying accounted for only 10 to 20 percent of the milk. The rest was fed to veal or transformed into cheese on the farmstead. Ten years of sanctions helped keep the dairy industry from developing. On one hand, they had no incentive to develop new products or compete with each other. Each dairy simply had an area to supply with basic needs of the population. They would collect milk through collection lines that were highly inefficient, but

accomplished their purpose. Trucks would pick up any quantity of milk at the door of the farmer. Subsidies were paid to the dairy to defray the costs of pickup. Other incentives or subsidies were paid until basic production costs were covered. Needless to say, little maintenance was done and the general condition of plants deteriorated.

The market had only rudimentary products produced locally. There were virtually no imports. The first imported product to appear when sanctions were eased was Slovenian UHT milk.

The vision the government had at this point was to reconstruct the traditional dairies and put in several new "mini-dairies". The Land O'Lakes project worked with the government to either refine their vision to make these dairies competitive or to prove they were non-starters. In the case of the mini-dairies, cash flows prepared by the project convinced the government to shelve their plans. In the case of Berane dairy, which was to be replaced by a new dairy, the plan was shrunk from five products to one. The project was taken on by a company out of Luxembourg. The dairy is currently being built and run by them.

Basically, during 2000 the groundwork was laid for elimination of subsidies in 2001, allowing milk to be priced freely.

Association Development

Discussions continued to work out a new set of statutes for farmer associations. Initially the group with which we worked consisted of the strike committee that organized the milk strike. There were 21 members of this committee. Eventually it sorted itself out to about six to nine members who regularly attended. They expected to start another milk strike with the aid of Land O'Lakes supporting them. That notion was challenged.

We asked for proof that they represented the farmers of Montenegro. They maintained they had called a meeting at the Biotechnical Institute with over 200 farmers present. They claimed they were elected at that meeting to represent the farmers. Yet, there were no minutes of the meeting nor vote counts. Our challenge held, and they came to accept that without records of meetings, there was no legitimacy.

Next we challenged the procedures used to found their national organization. They maintained they had organized the farmers and represented nearly 6,000 farmers across Montenegro. Again we challenged their legitimacy on grounds there was no proof of voting or membership roster. This gave Land O'Lakes the opportunity to discuss how meetings needed to be open, rosters needed to be kept and voting recorded. This took weeks of meeting several hours two to three times a week. At times they walked out, and other times Land O'Lakes walked out of meetings. But, we were able to eventually define a statute that provided for local, popular election of officers and transparency of operation. At this point, they still wanted to form one national association, with themselves as the board. We resisted this and convinced them that each of them should do the groundwork in collaboration with Land O'Lakes staff to hold local meetings in their own communities, inviting all farmers to participate.

At the same time, the animal husbandry team was giving workshops throughout Montenegro in collaboration with the EU heifer project. They concluded that the most pressing problem confronting farmers throughout Montenegro was feed procurement. Farmers would grow their own hay, but concentrates consisted of either wheat bran purchased from two large flour mills, brewers grain purchased from the Niksic brewery, or imported grains. In each case, a handful of traders had a sort of cartel on virtually all concentrate feed in the country. The mills and brewery sold their entire production to a couple of traders who gouged farmers on the price. Similarly, traders had import licenses for grain and marked up prices. This provided a rallying cry for the formation of associations.

By March, Danilovgrad was ready to form the first association. Flyers were distributed throughout the community. It is important to remember that this area had a few houses destroyed during the bombing campaign when NATO missed their military target. There were no casualties, but it was a hotbed for the opposition parties. Tensions were high and Americans in particular were not liked.

The Land O'Lakes staff planned and strategized for all the scenarios that could be imagined for the initial meeting. Staff were prepared for everything from a perfect gathering where everything went according to plan, to a quick retreat. Police were notified of the meeting and were present to maintain order. On the eve before the foundation meeting the project director received a phone call suggesting that either he not come or at least remain silent during the meeting.

The meeting went without incident. Over 60 farmers attended the meeting. Land O'Lakes staff registered all participants who attended and this gave them the right to vote in founding the association. The initial meeting was conducted by Land O'Lakes staff. The agenda was:

1. explanation of the the statutes of this new association (how it differed from a traditional "zadruga" by transferring power to the members to choose officers and hold them accountable)
2. voting to adopt the statutes and form an association
3. election of officers and board members
4. introduction of new officers and board members and power transferred to them

At the conclusion of the meeting the power was passed to the new officers and board members.

This formula was followed for the formation of all 33 associations. In 2000, we expected to be able to form five to ten associations. Instead, 23 sprang up. (See Appendix 2, formation of associations).

During this period Land O'Lakes entered into discussions with Cooperazione Italiana. They had some funds available. Farmers were cash poor, and needed start-up capital. An agreement was reached that Cooperazione Italiana would supply the initial funds in the form of feed purchased from local mills. The first three associations received 20,000 DM worth of bran and corn, but this was reduced to 6,000 DM when a flood of communities came to Land O'Lakes wanting to form associations. Each association was required to arrange and pay for transportation.

Land O'lakes immediately started working with officers to convince them that this feed was not a "distribution" from the government, but rather, working capital for their members. In other words, they needed to set prices that would allow them to continue purchasing feed and other goods for their members, pay for transportation and grow their capital. The notion of profit for the organization was a difficult concept because profit was essentially forbidden for the last 40 years and had been punishable.

Each association was free to set their own prices. This was also a novel concept and caused a lot of discussion not only at the local level, but also with the government. Since the government's traditional role was setting prices at all levels, this was a major step toward free market pricing. Farmers came to accept the principle and the government became comfortable with a reduced role in the market place.

After associations collected payments from their members, they were ready to make additional purchases. At this point, Land O'Lakes assisted in setting up negotiating meetings between associations and mills. Together we succeeded in signing purchase contracts with mills that eliminated middlemen. Feed prices dropped by 30 percent and the associations gained popularity. A group of associations then went to meet with Niksic brewery and ended up signing a contract to purchase their entire production of brewer's grain, shoving out the handful of traders and the state farm in Niksic that had previous taken all the production and resold it.

The fact that a group of farmers could now negotiate for better prices was an incredible incentive for more to organize, and it became a driving force behind the associations.

The spring of 2000 turned out to be a dry season. Land O'Lakes signaled that a potential drought was in the making by April of that year. As it turned out, there was a Balkan-wide drought that summer and feed prices soared, and even hay was in short supply. The associations became even more important in feed procurement. The feed buying co-ops organized by Land O'Lakes played a critical role in putting farmers closer to their feed supplies and avoiding price gouging by speculators and profiteers. With the 150,000 DM (\$75,000) of feed donated by Cooperazione Italiana to buy a truckload of feed for each new association as start-up capital, the associations were able in six months to purchase 3,700 tons of feed worth \$205,000. As part of this program, project staff gave guidance in formulating rations with available feedstuffs. Land O'Lakes also sourced feed for associations from Croatia, Hungary and Serbia. Evidence shows that farmers experienced as much as a 20 percent increase in milk production due to increased feed availability.

The 23 Local Farmer Associations (LFAs) were brought together to discuss the feasibility of forming a National Association. A task force was set up to draft the statutes for the Association. The formula that all agreed upon was to hold annual elections for the four executive officers (president, vice president, secretary, treasurer) by popular vote of all members throughout the Republic. After the initial election, the vice president would automatically become president, and the retiring president would serve as an honorary board member for one year. Thus, each year the membership would elect the vice president, secretary and treasurer. This would provide for continuity in leadership but avoid one person or group dominating the organization.

The board was composed of one representative from each association, regardless of size. So all parts of Montenegro could be represented fairly at the national level.

The first national convention convened in October. All associations were asked to send two delegates to the founding meeting, and to be prepared to nominate officers. They adopted the statutes and we then proceeded to nominations. Several rounds of voting took place with the top two candidates being put on the ballot. The ballots were sent out according to reported members who had paid local dues. The local associations were allowed to choose the method of voting, provided it took place within a week and the ballots were counted and certified by the officers, and a Land O'Lakes staff member present at the meeting. Local associations also elected their board member at this meeting.

On November 5, 2000 the delegates convened at the first annual general assembly to elect the officers. The ballots were opened and counted in front of the delegates. Of the 1200 votes cast, the president won by eight votes. Thirteen ballots were thrown out. It had proven to be a very close race. Montenegro now had a democratic National Farmer Association.

At the same time, the dairy processors organized a National Processors' Association that provided a forum for the discussion of issues confronting the industry. For the first time, the Ministry of Agriculture could externalize agricultural issues and hand over responsibility and power to the stakeholders. This turned out to be the foundation for agricultural reform.

Land O'Lakes also started working with USDA and the Department of State to put together an emergency shipment of corn and soybean meal on a government to government program to be monetized through the associations. However, this did not come to fruition until the last months of 2001.

Finally, the project launched a monthly newsletter to be distributed to 5,500 farmers throughout Montenegro. Dairy plants, associations, veterinarians and agricultural advisors were used to distribute the newsletter. The project chose a low-cost approach that produced a four to eight page letter in two colors on A3 stock. It was printed in-house on a risograph machine, which is the modern equivalent of the old stencil machine. The staff produced and distributed the letter.

The name for the letter was "Novi Katun" which means the "New Chalet". This is a poor translation, since "Katun" is the name given to the high mountain pasture and stone cottage built where people traditionally take their livestock for summer grazing and to make traditional cheeses.

Technical Support in Milk Production

The Animal Husbandry team identified several areas in which Land O'Lakes could make contributions to increasing milk production. These were:

- forage production
- artificial insemination
- milking equipment procurement
- animal health
- ration balancing
- barn design
- record keeping
- milk hygiene on the farm

Workshops were developed in all the above listed areas and promoted through the associations.

Forage production focused on improving alfalfa production on cultivated plots. Two major problems were addressed. The first was growing alfalfa as a pure stand as opposed to being mixed with various grass seeds. This was the recommended practice of the Biotechnical Institute and was a common practice in the US about 30 years ago. But research has since indicated that pure stands out-produce mixed stands in both quantity and quality of forage.

The second problem addressed in growing alfalfa was to get better varieties of seed. For this we turned to Hungary and brought in seed samples of five-leaf varieties that are finer stemmed than the three-leaf varieties currently being cultivated. Legend (a US brand) was chosen for demonstration plots because it is hardy in the colder areas of Montenegro as well as a high yield variety. In the fall of 2000 Land O'Lakes set up 15 demonstration plots around the country to show how pure stand alfalfa of improved varieties can produce more and higher quality forage that in turn will produce more milk. Seminars and follow-up were given along with seed for the demonstrations.

Farmers were so impressed that the associations placed orders for five tons of seed at the going market price of 8DM per kilo. The Ministry of Agriculture promptly launched its incentive program and subsidized the purchase of forage seed at 2 DM per kilo. This was strongly criticized by Land O'Lakes. Nevertheless, it went forward. In the end, farmers increased orders for Legend to 10 tons of seed.

In the process, Land O'Lakes discovered that Italian companies were infringing on the Legend trademark and marketing inferior seed under that name. The order for Montenegro was verified Land O'Lakes as being seed produced under legitimate licenses and guaranteed quality. This is a problem often cited by Montenegrin farmers. Not only is forage seed repackaged under false brand names, but vegetable seed suffers the same fate. The Farmer Associations are becoming a significant force in combating this fraud, since they can place larger orders directly with companies or reputable dealers. Farmers are willing to pay more if they have guaranteed seed.

In *artificial insemination*, the project attempted to address a problem that cows would not settle when inseminated by the public veterinary service. The public veterinarian service was the sole provider of semen and were the only ones who inseminated cattle. Farmers claimed veterinarians would not come to breed their cows in a *timely manner* and when they did, their cows did not settle. We found enough blame on all sides. The public service had few means and little incentive to do a good job. So, we brought in one of the best experts in the US to teach farmers how to inseminate their own cattle. Neither the farmers nor the veterinary service thought that farmers could be taught this technique. The project asked each association to send two people to a three-day training workshop. The project provided elementary equipment to the students such as semen guns, gloves and work clothes. Both farmers and the veterinary service were amazed that most farmers could master the technique in such a short time.

The project encountered many problems in launching the program. First, many associations had to be convinced to even send someone. Then, when the actual workshop took place, farmers who had volunteered their cows refused to let the students practice on them. Even the state farm, which has an abundance of cattle, was suspicious. These suspicions were fanned by people in the Danilovgrad association who claimed we would ruin their cows. Finally, after a lot of heated discussion, the project guaranteed their cattle wouldn't be hurt and paid transportation costs toward getting the cows to a central location for training.

Once the training was done, the former students were proud of what they could do, and many of them were hired as AI technicians by the veterinary service. A total of 35 farmers were trained in 2000. In some cases, they started their own service. The groundwork was laid to break up the monopoly held by the government on the import of semen.

Milking equipment was often cited by the government and farmers as a means of improving milk production and quality. An expert was brought in to demystify this assumption. Procuring a milking machine only makes sense if labor is the issue. Since most farms have fewer than five cattle milking at one time, the investment is difficult to recover. Genetics and feeding has more to do with the quantity of milk produced, and management practices have more to do with quality than milking machines. An expert who has designed milking systems all over the world was brought in to analyze the situation and came up with recommendations for portable and stationary milking systems. The conclusion was basically that a milking machine only makes sense when more than two hours are spent milking. More emphasis was placed on cooling the milk promptly after milking as a means to preserve quality. Simple cooling systems, such as setting cans in cold water, were recommended. Eventually can coolers were procured in the EU in response to this consultancy.

In *animal health*, many problems were addressed by the project staff veterinarian. Simple solutions were demonstrated to farmers. Simple things such as hoof trimming were taught. In one case, a student started his own hoof trimming service for farmers. Farmers were taught how to do their own CMT (Californian Mastitis Test) for mastitis. Starter kits were provided for each association. The same test was done by the veterinarian service for which they charged over 14 DM (about \$7) per test. A kit that can do over 50 tests costs around \$10. Farmers were reluctant to even test their cattle since no premiums were being paid for low somatic cell counts in milk.

Brochures were produced on other issues such as reproductive problems, disease diagnosis and general health care. These were published in the monthly newsletter started by the project.

Ration balancing was a natural follow-on to lower feed prices. Before, farmers had few choices of concentrates to feed their cattle. Now, they had access to a variety of feeds. In most cases cattle did not have the energy or protein needed to take full advantage of the roughages or pasture available to the

cattle. The genetic potential of the local breeds was largely unknown and little information was available. Initially, just basic ration balancing to increasing energy and protein through concentrates would increase milk production as much as 20 percent in some cases. Further study will prove invaluable in fine-tuning rations.

Barn design is perhaps the most basic but most important factor affecting milk production on most farms. Designs promoted in the 50s and 60s were not bad. They provided for gutters, windows, a milk room, and good ventilation. In the last 10 years, there has been little money to invest in barns. And a proliferation of keeping cattle as a survival strategy as opposed to a business occurred. As a consequence, the barns today are dark and dank. Stories abound about cows that come out of a barn and run into a tree or wall because they are blinded by the bright light. Cows lay in wet stalls that are a breeding ground for mastitis. A host of health problems are addressed by simply putting in gutters and windows to improve drainage and ventilation. Simply getting the length between the manger and the gutter correct so cows deposit their manure in the gutter instead of in the lounging area of the stall makes a huge difference. This does not take much investment, but it does take a bit of muscle.

A total of 824 farmers attended seminars; 123 farmers did barn improvement throughout the 22 Farmer Associations; and five farmers built new barns based on Land O'Lakes/Montenegro's advice.

In the long run, *record keeping* will form the basis of long term improvement in management and subsequent production. But Montenegro is no different from anywhere else—farmers generally hate keeping records. The project gave out free pails to measure milk production. There was virtually no milk recording in Montenegro when the project started. The project proposed using owner sampling and developing that into a "cow-ring" in which a minimum of three farmers would take turns measuring each other's production once a month. This would at least start to inject some credibility into selection of bulls based on production of their offspring or pedigree.

As the Selection Service started, the agents employed by the Ministry of Agriculture would do "official" milk production testing and eventually would be able to test milk samples at the central testing laboratory. This would take a sustained effort on the part of Land O'Lakes to prove to farmers that it is worth their while to do it and to encourage the Selection Service to render service to farmers instead of behaving as a research institution. This would take a ten-year program, not two years to accomplish.

Milk hygiene on the farm fell to the animal husbandry team. This focused on simple techniques to improve bacteria and somatic cell counts. Numerous brochures were produced that focused on simple solutions such as proper washing and sanitation procedures for milking equipment, and basic milking techniques that reduced the chance of mastitis.

Technical Assistance to Dairy Plants

The team that would provide technical assistance to dairy plants was hired in February. At this point, the role of the dairy plant was evolving toward a free market, and owners were trapped between the old role of dairies providing cheap products for workers to one of a true business.

A consultant was brought in to assess the economics of the current dairy plants. Sound analysis was rendered nearly impossible since accurate records and accounts are not kept, or several versions are kept. Only one dairy plant dared show all three sets of books to the consultant and then regretted doing so. Still, the report described the general situation of the dairies.

The team and consultants offered HACCP (Hazzard Analysis of Critical Control Points) and quality control training. However, the training was largely disregarded because there was little incentive to

implement a new program. First, the larger plants had technicians who could operate the plant up to standards laid down by the federal government, and there was no incentive to go beyond that since there were no imports to compete with that had higher standards, and there was no possibility to export products to regions that had higher standards. Customers were accustomed to the plain products they received and had no purchasing power for dairies that offered improved or better packaging.

The team offered new product development and promotional assistance. But again, the market gave little incentive for dairies to do anything differently. Advertising and improved packaging would increase prices and the population did not have the purchasing power or desire to pay the extra money for the products.

The team did have some success with a couple of the private dairies who learned to make new products, but they delayed introduction of those products until market conditions changed. A consultant demonstrated how to evaluate new types of yogurt with representatives of all the dairies, but again they all agreed that they would change when the market dictated.

Even though the team demonstrated that Montenegrin products generally were of low quality by world standards, there was little need to improve as long as government regulations and price control reasonably balanced the supply and demand. At this time, there was a fairly fine balance between production of cheap goods and demand.

Fresh milk had a shelf life of 24 hours, and most people took the milk home and boiled it again before freezing it for later use. The stores sold out of milk before noon, so there was no carry-over or returns. Yet there was generally no severe shortages of milk. Milk plants spun the sediment out of the milk in separators and pasteurized the product at nearly 98 C. We found the self-cleaning separator went into cleaning cycle every 20 minutes where the same model in the United States would probably clean itself every six hours. We were surprised to find that milk going into the plant with over 450 million bacteria counts and would normally clog sediment tests, came out as clean as pasteurized milk in the States. The product qualities were substandard but the product was not a public health concern, and people generally accepted the slightly burnt taste of high temperature pasteurization.

By the close of 2000 the team started to focus on farmstead production of cheese. The team came to the realization that the dairy industry of Montenegro is really split into two distinct sectors. One sector consisted of commercial dairies. They accounted for 15 percent of the milk produced. The other was farmstead production, estimated at 85 percent of the milk being used for either feeding veal or farmstead cheese making. Land O'Lakes/Montenegro focused on this sector since it affected the lives of an estimated 65,000 families. These families most often have one or two cows and sell their products to friends and family. However, the revenue generated from one cow was nearly equal to that of an average annual wage.

Cheese competitions were started with several objectives in mind. Local specialty cheeses needed to develop a standard of identity for the market. Those who were best able to describe the cheese were the cheese makers themselves. Local cheese makers were invited to compete for trophies and prize money collected from sponsors. An "expert" panel of judges gave them feedback on their cheese. In short, cheese makers started to talk to each other.

Improving cheese quality was another objective of the competitions. We found that simply letting cheese makers sample the others' cheeses and allowing them to informally talk among themselves raised the general quality of the products. Follow-up visits were made to give impetus to the movement.

Exposure in the media helped participants sell more products. One winner was able to sell 200 kg of cheese as a result of winning the competition. As more competitions and exhibits took place, the interest grew among the restaurateurs and the public.

Finally, cheese competitions promoted women. Women were almost always seen in the background but never in the forefront at public events. Since almost 100 percent of the participants were women, they had the opportunity to be front and center stage for a change. The effect was remarkable. Women were invited to be judges and they crossed the clan and political divide by assisting at other events. The project took advantage of this opportunity to give women the chance to organize and receive training.

2001 – Implementation

The beginning of 2001 found the project :

- In the midst of a general feed shortage that was common throughout the Balkans because of the drought. Fortunately, the winter was mild, and the associations were purchasing their own feed.
- Urging USDA to expedite the arrival of feed to be monetized through the associations.
- Embroiled in discussions with USAID on extending the scope of the project at the behest of Ambassador Richard Sklaar and the Ministry of Agriculture.
- Working hand in hand with the European Union Food Security Program and Ministry of Agriculture to set up a National Milk Testing Laboratory.
- Conducting seminars on ration balancing and animal health

Agricultural Policy

Milk Pricing Policy Workshop: Land O'Lakes/Montenegro worked hard to lay the groundwork for the policy reforms that will eliminate many subsidies and incentives to farmers and dairies and deregulate the price of milk at the retail level. Land O'Lakes has been at the center of policy discussions on devising the implementation of this reform. The key players have been the Ministry of Finance (EU Food Security Program) and the Ministry of Agriculture. Land O'Lakes has also been the prime figure in developing the National Milk Testing Laboratory. It has also been the liaison between the Ministry of Agriculture and the farmers and processors.

In May Land O'Lakes gathered 55 participants in the Bijelo Polje Hotel for two days to discuss the implications of price liberalization. The participants represented three interest groups:

- Milk producers
- Dairy processors
- Dairy product consumers

In addition, the Ministry of Agriculture, the Ministry of Social Affairs, the Selection Service and other local municipal people were present. First the two ministries laid out their plans for milk price liberalization. Controls on retail prices are in the process of being phased out. At the time of conference, milk prices had risen from 0.35 DM/liter to 0.60 DM/liter.

At the same time subsidies to dairies were eliminated, with the difference that had been paid by the GOM to dairies being made up by the increased retail prices. Concurrently, the Ministry of Social Affairs was working out a voucher system to make direct payments to low income Montenegrins who need food (dairy) assistance.

Two people were brought in from Poland, a country that has undergone a similar price reform. One was a farmer who related his experience of receiving higher prices for quality milk and what it took to produce that milk. The other individual was the head of a dairy cooperative that processed cheese. He was able to relate first-hand the problems and advantages of free market pricing. Their stories became the centerpiece of the workshop.

Paul Christ, former Vice President of Land O'Lakes and an expert in agricultural policy, moderated the sessions in the afternoon and the following morning. He helped all the groups feel their way through the implications of such reforms. The general conclusions (included in the proceedings of the conference) indicated that farmers continued to look to the government to help them through this problem. They had never experienced declining milk prices. But they now realized that it was serious and started to prepare themselves, or at least take it seriously.

The dairies complained they could not make a profit and were having trouble adjusting to the new market system. The sting of competition was not welcome, and they were asking for protection from imports. Land O'Lakes/Montenegro was not in favor of import tariffs unless justified by unfair trading practices such as export subsidies.

The people representing consumers remarked that they already purchased less milk since prices had risen, and expected they would consume less with higher prices, or they would turn to friends and family for sources of milk. They explained that most people are on fixed incomes (pensions) and could not afford free market milk.

Ag Policy and the National Milk Testing Lab: Beginning in November 2000, Land O'Lakes headed a commission assembled by the Ministry of Agriculture to establish a laboratory to test milk for the animal Selection Service and for the processing plants. The necessity of the lab was demonstrated by Land O'Lakes during a study tour in 2000 in which the Minister of Agriculture witnessed firsthand the role of a central lab in being an honest broker for milk payment. It also provided milk component testing, which will be the heart of a cow or goat selection program. Thus, the Montenegro Milk Testing Lab was conceived to service both the Selection Service and the farmers and dairies. The dairies would use the lab to test raw milk for components, somatic cells, and bacteria.

Land O'Lakes developed the concept of the testing lab and headed the committee to tender for the equipment. By March the committee had selected the offer of Foss from among three bids that included Bentley and Delta, to provide a Combi-Foss 3200 machine and a Bactoscan 150. These two machines can test up to 800 samples of milk per day. The management structure and logistical plan was developed in a collaborative effort with the EU, the Biotechnical Institute, the Ministry of Agriculture, and Land O'Lakes Montenegro. The methodology for selection of the board of the lab was worked out so that the National Farmer Association, the National Processor Association and the Selection Service would each nominate one of their members to the board, subject to approval by the Ministry of Agriculture. The Ministry of Agriculture would have one non-voting member who would facilitate meetings. This way everyone who used the laboratory was represented on the board. An advisory committee could have as many members as the board wished.

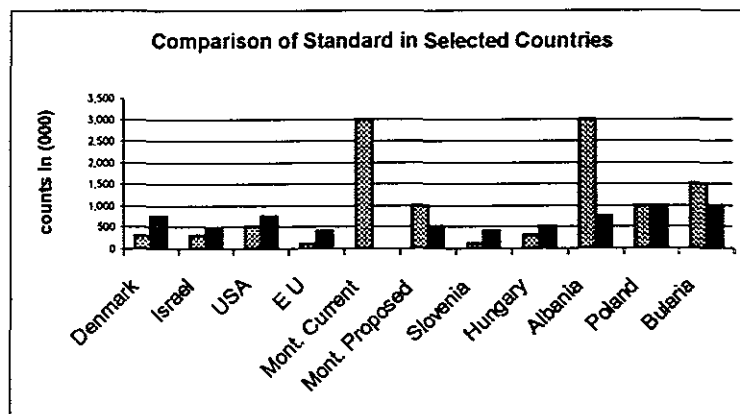
Land O'Lakes provided technical assistance to set up and manage the laboratory. The new director of the laboratory is a former Land O'Lakes Montenegro employee. Slavko Mirecki worked for the project for over a year. He gained the respect of both the farmers and the processors. It is a tribute to the effectiveness of Land O'Lakes/Montenegro's training and reputation in the dairy world of Montenegro.

Two groups were sent to the USA on study tours. The first group of five was sponsored by the US Department of State. Land O'Lakes helped set up the study tour and selected the participants. Two members of the governing board and representatives of three prominent labs were sent for three weeks to observe various aspects of the US system of milk pricing, and agriculture in general. The second group of three was sent for one week to study the specific elements of lab operation and management. They consisted of the director, his assistant, and a representative of the Livestock Selection Service.

The lab was fully operational by November. At that time, two professionals (Muril Niebuhr and Jeff Lerum) were brought in by Land O'Lakes to work with the staff on lab management and to help set up the information system. Niebuhr is one of the top milk testing lab managers in the USA and Lerum is Regional Director of DHIA. Together this team pieced together the software that gives Montenegro the first integrated package which can take data directly from the testing equipment and merge it with field data to give dairies and farmers critical management information for their operations. Land O'Lakes furnished the software package. Together, they trained the lab and Selection Service staff in its use.

Ag Policy and Processors: Land O'Lakes/Montenegro spearheaded the drive to present the implications of price reform for dairy processors. Initial meetings were conducted early in the year with the members of the National Processors' Association, and it all came to a head during a conference held in May at Bijelo Polje.

The price reform implemented in Montenegro consisted of eliminating a range of payments made to dairies to subsidize their operating costs, since milk was traditionally purchased and sold at the same price. Dairies were under pressure to analyze the efficiency of their operations; to develop a pricing strategy that would provide an incentive to improve the quality of milk at the farm gate; and to compete effectively at the retail level. Retail prices were to float upward. Prices in some stores rose from 0.35 DM/liter to 0.90 DM/liter. Prices continued to rise until imports set a ceiling for retail milk prices.

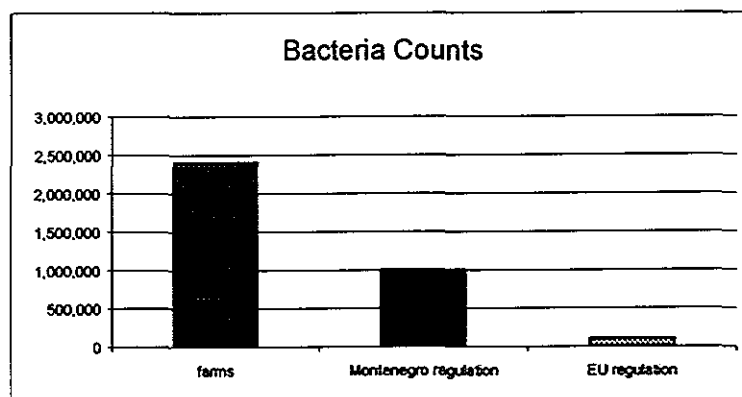


Land O'Lakes/Montenegro held a second workshop in November in Zabljak to show processors how to integrate quality factors into a milk pricing structure. The new pricing structure would drive milk quality improvement, which would be critical for processors to compete with imports.

Processors were still adamant that an "expert panel" headed by the National Milk Testing Laboratory and Ministry of Agriculture should determine farm gate and retail milk prices. Land O'Lakes/Montenegro played a critical role in changing this mentality. Even though many bought the idea of central milk pricing, Land O'Lakes/Montenegro demonstrated through many committee meetings that the variables of the free market are far too complex for anyone to manage. Instead, industry must respond to its signals. Facilitating open discussions and negotiations between farmers and processors helped pave the way for processors to set prices independently of one another. These talks, facilitated by Land O'Lakes/Montenegro, avoided two milk strikes and/or blockades of processing plants.

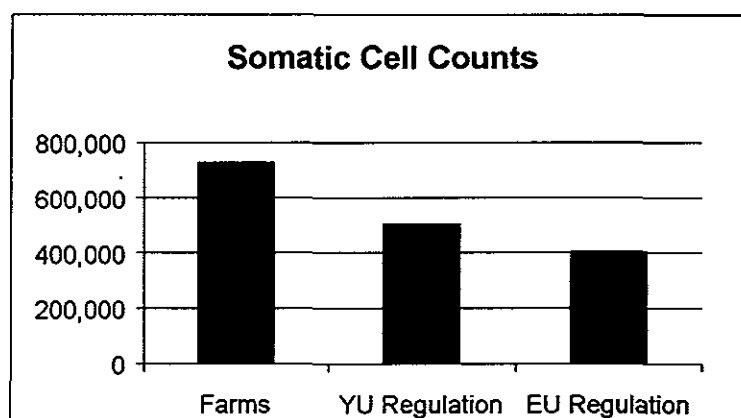
Agricultural Policy and Farmers: The following tables show the findings of Land O'Lakes/Montenegro compared to other foreign standards and give an idea of where Montenegrin farmers were at the time. The data on Montenegro was based on actual counts found on farms selected and sampled by the Land O'Lakes/Montenegro staff early in 2001.

Land O'Lakes/Montenegro staff went to the field to document the quality of milk on farms, and in these test cases, developed strategies for



farmers to improve their milk quality so they could benefit from premiums that dairies would supposedly pay in the future for quality milk. However, the most common response from farmers was, "We'll improve our milk quality when someone starts paying for it."

Farm gate prices of milk were "liberated" on August 5. This came after allowing retail prices to float upwards from .35 DM/liter at the beginning of the year to .90 DM/liter by August. During this period, subsidies to processors were eliminated.



Initially, nothing happened to the farm price of milk that was .17 DM/milk fat unit (between 0.62 DM/liter and 0.72 DM/liter depending upon butterfat content). The problem is that the only quality standard applied in the past has been milk fat content. At this point, farmers had no information on the quality of their milk based on somatic cell count and bacteria, and processors had no idea of how to price milk any other way. This was due primarily to delays in getting the National Milk Testing Laboratory functional. In fact, Land O'Lakes/Montenegro and the EU-FSP found themselves in the ironic position of advising the continuance of subsidies until workshops were done and the National Laboratory was functioning. But the driving force was lack of money in the MOA to continue subsidies.

Two things happened. First, several processors dropped their prices in proportion to the subsidies immediately following the Zabljak workshop. This amounted to a drop from .17 DM/milk fat unit to .14 DM/milk fat unit, and it broke the mould of uniform government pricing. Several processors led a charge to reestablish a single milk price for the Republic. Land O'Lakes/Montenegro worked with all of them to keep independent pricing alive.

At the same time, farmers were threatening blockades and strikes if the remaining processors dropped their prices from .17 to .16 DM/milk fat unit. Again, Land O'Lakes/Montenegro facilitated meetings between processors and Farmer Associations to negotiate milk prices.

Ironically, the lower prices did not significantly affect the supply since those processors paid on time. One processor who stuck to the high price is also two to three months behind in milk payments.

The first results were compiled from the Central Milk Testing Laboratory. This was the first broad-based hard data that farmers and processors had on milk quality. It framed the discussion on milk pricing.

Agricultural Policy and the Ministry of Agriculture: The price reform started at the beginning of 2001 by eliminating a range of payments paid made to processors to subsidize their operating costs, since milk has traditionally been bought and sold at the same price. Retail prices were allowed to float upward from 0.35 DM/liter to 0.90 DM/liter by August. The total subsidies eliminated were about .13 DM/liter of fresh milk. In spite of the fact that the increase in margin on sales equaled or exceeded the subsidies, processors continued to complain that they were not profitable. Since books were tightly held by processors due to tax considerations, Land O'Lakes/Montenegro could do little more than conjecture that this should be sufficient to allow the reform to go forward.

A crucial moment came on August 5 when the Minister allowed free market pricing of milk from farm to consumer. Both the EU Food Security Program and Land O'Lakes/Montenegro counseled to wait until the National Milk Testing Laboratory was fully functional to allow processors an alternate method of pricing milk. But the GOM went ahead because of budgetary constraints.

Farm gate prices did not move. Processors promised to keep prices steady for at least a month. Land O'Lakes/Montenegro conducted the milk pricing workshop at the end of September and several processors dropped their milk prices from .17 to .14 DM/milk fat unit, thus breaking up the universal milk pricing system that had been in place for decades.

Over the coming weeks, Land O'Lakes/Montenegro was engaged in facilitating talks between farmers and processors. This avoided blockades of plants and milk strikes. In December several more processors lowered prices from .17 to .16 DM per milk fat unit.

In October a national commission was formed to study milk pricing. The commission consisted of expatriate experts, representatives from the Ministry of Agriculture, the National Farmer's Association and the National Processor's Association. Land O'Lakes/Montenegro continued to lobby for free milk pricing by individual processors as opposed to centrally controlled milk prices. However, milk classes are being discussed to give processors a framework in which to work.

By November the National Milk Testing Laboratory was functional. The commission was finally able to start discussing issues based on hard data rather than conjecture. For example, farmers would claim their milk is "ecological" and the best in the world. Test results indicated the range that was possible and that poor milk should not receive the same price as high quality. Now there is general consensus on this principle that paves the way for the market to work.

In August, the farm gate price of milk was .17 DM/milk fat unit *or* about .61 DM per liter *or* nearly \$13.24/cwt for 3.6% milk. This is about the price of "extra" quality milk in the US or EU. Preliminary tests conducted on Montenegrin milk by Land O'Lakes/Montenegro showed that milk quality was sub-standard. Later, when the National Milk Testing Laboratory became functional these results were confirmed, and the discussion validated. This was a turning point on the whole issue of milk pricing. Farmers now were accepting that they had to improve milk quality, and processors realized they needed to improve the milk and ultimately product quality in order to compete with imports.

Agricultural Policy and the Changing Role of Farmers and Processors: The fundamental relationship between the government and the dairy industry finally started to be transformed in the last half of the year. Over the past decades, dairy policy was formulated at the top and transmitted to the processors and farmers. The Ministry of Agriculture was extremely cooperative and adept at redefining and transforming this relationship.

Land O'Lakes/Montenegro worked hand-in-hand with the Ministry to help farmers and processors understand their new roles. The highlight of the year came when the farmers discovered their newfound influence when President Djukanovic accepted their invitation to address the first National Farmer's Association convention held in November. It demonstrated to farmers that they could influence their government and play an important role in the industry.

Agricultural Policy Seminar in Zabljak: In September, 92 people from the dairy industry participated in a four-day workshop in Zabljak, with Paul Christ as presenter and moderator of discussion. Participants included the heads of 27 associations, representatives from the processing plants around Montenegro, and representatives from the Luxembourg Development Project, European Agency for Reconstruction, Ministry of Agriculture and the European Union. The purpose of the workshop was to introduce processors and farmers to free market milk pricing concepts. The same information was discussed with both groups. In a way, it set the chessboard for future price negotiations between processors and farmers.

In the past, milk prices were set by "expert commissions" established by the GOM and based solely on milk fat content. There were no quality measures. This workshop demonstrated how the EU and the USA price milk on components and quality measures such as somatic cell counts and bacteria.

The tendency of processors and farmers was to request an "expert commission" to determine prices. Land O'Lakes/ Montenegro worked through this commission which reached over 30 members at one point, to demonstrate that the free market would be a much better indicator of what the milk price should be than a fictitious price based on an "average" cow and processing plant. Both processors and farmers came to accept this concept and are starting to negotiate prices. Land O'Lakes/Montenegro worked with both sides, teaching them how to make compelling arguments and build a case for their demands. This was understood but not practiced.

Agricultural Policy and Imports: Land O'Lakes/Montenegro joined with the EU Food Security Program in tariff discussions on imported dairy products. Processors made the claim that imports were driving prices down and their sales were suffering. Land O'Lakes/Montenegro and the EU-FSP argued that anything other than tariffs based on WTO rules would be counterproductive. In addition, we cited that import tariffs did not apply to Serbia that would certainly benefit from any restrictions put on other countries, and the net effect would be to help Serbian dairies, not Montenegro. In spite of our advice, the GOM imposed a .30 DM tariff on several imported products.

The tariffs were imposed for two months in August at the same time that the market was freed. Store prices went up .30 DM. The tariff was extended another 30 days until the end of October. During this time, Land O'Lakes/Montenegro and EU-FSP continued to counsel a more targeted approach to tariffs. The first decision was based on mostly anecdotal evidence of both import quantities and export subsidies given by other countries. Land O'Lakes/Montenegro was able to obtain hard facts on Slovenian export subsidies and worked with the GOM to collect accurate data on import quantities, as well as hard facts on various countries that give export subsidies. Serbia is another matter. It is a complex issue that is more or less on hold until the issue of independence is resolved.

Association Development

The National Farmer's Association (NFA) and the Farmer's Trade Association (FTA):

Over 1,200 farmers voted in the first ever direct election of a national farmer's representative organization. The irony of the election was that the president was elected by a margin of six votes, and there were 12 ballots that were thrown out.

The greatest achievement by the NFA was the founding of the Farmer's Trade Association (FTA). This firm is owned and managed by the NFA and is a legally registered import-export company with the ability to purchase and market almost anything related to agriculture. The primary reason for founding this firm was to circumvent the cartel of traders who have traditionally had a monopoly on goods coming and going in Montenegro. These companies would take two to five percent of the invoice price of all goods coming or leaving the country. Many times farmers would have to go through several of the firms. Now they could do it themselves and benefit as much as 30 percent in cost reductions. It also gave them

the freedom to plan ahead and avoid shortages and the subsequent crisis management that comprised the typical mode of operation.

The NFA gained the respect of the GOM and other donor agencies. The Minister of Agriculture turned over 1.6 million DM (funding from the USDA monetization program that had been scheduled for government projects) to the NFA for start-up funding for feed, agricultural inputs, and equipment purchases. The farmers were empowered to purchase the inputs that made sense to them, because many times donor agencies required them to purchase new equipment from their respective countries or the GOM "pre-selected" the fertilizer or seed they could purchase. The farmers of Montenegro are frugal and poor. They would rather buy used, reconditioned, or Eastern European equipment that is cheaper. Their new company provided them with the freedom to really enter the local and international markets on their own terms.

The NFA gained the attention of the government and international aid agencies. The new Farmer Associations were in a position to privatize the few remaining state dairy plants, and/or take over others that are poorly managed and going broke. This had the potential to break one pattern of privatization that had *not* worked in the farmers' interest, namely people with capital but no experience buying and taking over firms they could not manage, or cornering a market and setting monopolistic prices. The usual roadblock to farmers procuring these firms was the lack of capital. There were three potential takeovers that Land O'Lakes/Montenegro explored with associations.

- The first was the Luxembourg dairy project in northern Montenegro. Lux Development equipped the Lim Valley Dairy, which started as a government-funded building project to replace the defunct Berane Dairy. Land O'Lakes/Montenegro did the initial ground work for Luxembourg to organize the associations in the area. Under this scheme each farmer would supply about the value of a calf (300-400 DM) as the initial operating capital for the dairy. The farmers would then acquire the majority of the stock in the plant. The expert team from Luxembourg is still working out details with the associations and has experienced many setbacks in implementation.
- The second was the Niksic Dairy, which was the last remaining purely state dairy in Montenegro. The Niksic Farmer Association started working to assemble enough vouchers through its members to acquire it. The effort became too complex for them to handle. They have not given up but it would take additional technical assistance for them to pull the deal together. With the close of the project, Land O'Lakes is not there to provide the needed assistance.
- The third is a new dairy that has gone into bankruptcy. Formulas were explored with several banks that would allow the FTA or group of associations to take over the dairy. Again, time ran out on the project before this could be accomplished.

Other donor agencies became involved with the associations. The GOM has been running its fertilizer sales through them, and several grants have been given to help them get established. The EU OBNOVA project used the associations to monitor their cattle donation program.

The National Farmer Association (NFA) National Elections: Land O'Lakes/Montenegro helped organize the second NFA election for vice president, secretary and treasurer. By statute, the vice president automatically became president, and the former president became honorary member of the National Board. This provides for continuity in leadership and limited the chance of having one person taking over the organization.

In the third quarterly meeting, the NFA board served as the nominating committee and selected two candidates for each of the three offices. Land O'Lakes/Montenegro then made a video tape of each of the six candidates, allowing each of them two minutes to state their case. A fact sheet and poster was produced and posted in villages to encourage more people to get out to vote. Finally, national television and radio were employed to get the word out.

Each local association compiled a list of paid members and the appropriate number of ballots was distributed to each association. Land O'Lakes/Montenegro staff, along with one member each of two neighboring associations, served as election monitors. Usually, local associations allowed voting during one week prior to the special meeting called for elections. During this week members would vote and sign the roster beside their name. At the meeting, votes were counted, validated by the monitors and sealed in an envelope that was held at the NFA headquarters. At the same meeting, local associations elected new delegates to the National Board.

The new board met at the National Convention and counted the votes, and the new officers and board members were introduced and took over at the convention.

Of the membership, 2,665 or 57 percent, voted in the national election, which is over double the number from 2000 (1,200).

The Local Farmer Association Elections: Immediately following the National Convention, all the local associations rescheduled their elections to immediately follow the National Convention each year. This was done to facilitate replacing board members or officers who may have been elected to national office. National officers were not allowed to hold other positions within the associations.

The focus this year was to encourage broader based participation in local associations and provide financial information to members. The belief was that informed membership could take the initiative to correct irregularities in use of funds or democratic procedures.

One of the greatest problems these associations faced during the first year of operation was the lack of understanding about how transparency and democracy really function. The Land O'Lakes/Montenegro staff spent countless hours explaining to board members the role they should play in their organization. They also helped promote the elections by placing posters in villages and having elections announced over local radio and television.

Staff members attended local elections. Before the meeting they would go over election procedures. The emphasis was on having multiple candidates for each office. They would elect the president, vice president, secretary and treasurer, plus two of the six board members.

Land O'Lakes/Montenegro had been working with local associations to develop financial statements that were a hybrid income/balance sheet that would indicate net worth. Prior to the elections, the financial status of each association was published in Novi Katun (the newsletter). Plus, staff went to the meetings and explained the statement to the board and members.

Land O'Lakes/Montenegro ran into a hailstorm during these elections. A few associations had questionable practices. The combination of having financial data available and getting farmers to come out and vote proved threatening in some cases. Staff members were threatened. But the good news was that in every case, farmers took action through the voting process to replace those they felt were not acting in their interest. In several cases they voted to initiate an investigation into former officers. This turned out to be democracy at its finest.

There were 2,850 farmers that turned out to vote in local elections. This is a radical change from decades of top-down organization of zadrugas (state cooperatives). It proved how important it was to help them consolidate their gains in transparency and democracy.

The impact we witnessed in the local elections corresponded to a public opinion survey conducted by the Center for Transition in which an increasing number of Montenegrins believe that "civilian engagement" is the best method of combating corruption. (Up from 20.01% last year to 27% this year). Land O'Lakes/Montenegro was an advocate of an activist membership.

Local Associations Expanding Business: Sales topped \$1 million in feed in 2001. The FTA started importing feed and supplements. The next step was to import new and used equipment.

Land O'Lakes/Montenegro was approached by a group of farmers who wished to form a greenhouse association. The project assisted them in forming the association. It went on to join the NFA and now the FTA has expanded its business to include horticulture. Three other associations formed along these lines.

National Farmer Association Convention: On November 5, the NFA held its first National Convention. The objective was to focus the national limelight on the association and farm issues. Nothing like this had been organized in the past. National meetings were usually exclusive to official delegates selected by the party. This convention was open for anyone to attend, and its purpose was to celebrate and promote farmers' interests.

The National Sports Center for water polo was rented. Since the pool had not been used in many years, stairs were built down into the pool and it was used for booth space. The facility was fixed up for the event.

Nine farmers formed the committee for the National Convention. They rented booth space for 50 DM per space. Associations and commercial companies and services used over 50 spaces. Fees totaling 1,000 DM were collected and used for awards given to associations with the best booths. In addition, hundreds of items were donated by commercial companies and given out as door prizes throughout the convention.

The crowning achievement came when President Djukanovic accepted the invitation to address the farmers. Up to that point, both sides were not convinced the other side would show up. The president wanted assurances of a good turnout. On the other hand, farmers wanted to know if the president was coming. Land O'Lakes/Montenegro assured both sides that it would happen. Luckily, it did. The president related that the convention far exceeded his expectations. And, the farmers were very excited that the president demonstrated his interest and commitment by coming. In fact, the president spent an hour talking with farmers and visiting their booths. It was a tremendous encouragement to the farmers.

The total event was designed to last from 10:00 a.m. to 2:00 p.m., allowing time for people to travel from any part of the Republic and return home in one day. There is not place with adequate overnight facilities to host a large convention. Our goal was to have 1,000 people in attendance. By the end of the day we estimated 1,500, with one of the local papers reporting 2,000 in attendance.

The convention schedule was as follows:

- 10:00 - National Board meeting to count votes and finalize elections
 - Booths open
- 11:00 - Entertainment begins
- 12:30 - Meeting of the general assembly of farmers in the main arena

- Introduction of new officers and board members
- Retiring address from the NFA president
- Key note speeches by the Minister of Agriculture and President of the Republic
- Motivational speech by Land O'Lakes/Montenegro guest, Elwin Guild

14:00 - Booth tear-down and reception for guests

Each of the associations was invited to put up a booth that illustrated products from their area or their activities. A panel of three judges evaluated the association booths and selected the top three that received 500, 300 and 200 DM respectively from the booth registration fees.

The goal of attracting attention to farm issues went beyond expectations. Twenty journalists turned out and every radio and television station carried reports from the convention. The officers held their first news conference.

The Farmer's Trade Association: The NFA founded the Farmers' Trade Association (FTA) as a legally registered import-export company with the ability to purchase and market almost anything related to agriculture. The primary reason for founding this firm was to circumvent the cartel of traders who have traditionally had a monopoly on goods coming and going to and from Montenegro. These companies would take two to five percent of the invoice price of all goods entering or leaving the country. Many times farmers would have to go through several of the firms. Now they do it themselves and benefit from the savings, as much as 30 percent. It also gives them the freedom to plan ahead and avoid shortages and the subsequent crisis management that comprised the typical mode of operation.

The NFA gained the respect of the GOM and other donor agencies. The Minister of Agriculture has given 1.6 million DM (funding from the USDA monetization program that had been scheduled for more government projects) to the NFA for start-up funding of feed, agricultural inputs, and equipment purchases. The FTA has started buying feed, supplements and veterinary supplies for its members. Equipment was eventually added to its buying list.

The farmers were empowered to purchase the inputs that make sense to them, because many times donor agencies required them to purchase new equipment from their respective countries or the GOM "pre-selects" the fertilizer or seed they may purchase. The farmers of Montenegro are frugal and poor. They would rather buy used, reconditioned, or Eastern European equipment that is cheaper. Their new company provided them with the freedom to really enter the local and international markets on their own terms.

The challenge that confronted the new business was the selection of a director and board members. The NFA appointed a managing board. A temporary director was selected to manage the company until a search could be made for a permanent director who would be approved by the entire NFA board. The director is appointed annually by the NFA governing board. Land O'Lakes/Montenegro facilitated the process. This went against the time-honored method of appointments from the top down. Land O'Lakes/Montenegro played the part of the watchdog to ensure democratic principles and transparency. This was accomplished by generating reports and working side by side with the board, Ministry and FTA director.

For example, Land O'Lakes/Montenegro pointed out to the NFA board that the current director could not hold the office of vice president of the NFA, director of FTA and be a local treasurer at the same time. Although this seemed natural to them, the project advised them how this represents a conflict of interest. He gave up the local treasurer's position and did not apply for director of the FTA.

Local Farmer's Associations and Land O'Lakes Monetization: An entirely new approach was worked out for monetizing corn and soybean meal in conjunction with the local farmer's associations. Associations were used to sell corn to their constituents and the proceeds were placed in a special account with their name on it. This proved successful in motivating farmers to both purchase and pay for the commodities.

The proceeds were used to expand the local association's inventory of goods sold to members. The associations decided what to buy and managed the inventory. This was a fundamental change in approach to project implementation and monetization. It transferred responsibility to the recipients.

National Processors Association: This association was struggling to find a purpose. That changed when the association became the focal point for influencing dairy policy. By working with the NPA, Land O'Lakes/Montenegro showed them how they can influence dairy policy by being proactive instead of waiting for the government to act. In other cases, Land O'Lakes/Montenegro met with them to discuss the role they can play. One example is milk pricing. Land O'Lakes/Montenegro conducted two workshops that walked them through the process of determining prices based on quality. Follow-up meetings and facilitating of negotiations reinforced the process. On the other hand, Land O'Lakes/Montenegro has encouraged them to stay out of centralized milk pricing, leaving that up to individual dairies and to work on establishing Republic-wide standards for classes of milk.

Women in Associations: Cheese competitions became a hallmark of Land O'Lakes/Montenegro and local association cooperation. The objective of the project was to gain access to markets and information for the women through these competitions. Traditionally, only men come to meetings and participate, even though the women do much of the work and the marketing of farmstead cheese. Up to half of the total milk production in Montenegro is converted into farmstead cheese. This is used by the household, traded and sold for other goods.

Land O'Lakes/Montenegro succeeded in forming three subchapters of farmstead cheese makers in the Pljevlja (51 members), Kolasin (19 members) and Mojkovac (17 members). By working with these women, Land O'Lakes began to see the true structure of the dairy economy emerge and the role women play in this environment.

A Growing Sense of Democracy and Empowerment: The sense of empowerment the farmers now felt was hard to document. But the new direction of their activities indicated their newfound power and initiative. Just a few anecdotes illustrate this. Several times when association officers were getting off track and abusing the power of the presidency for their own benefit, members took action. Usually a simple meeting was held – with Land O'Lakes/Montenegro acting as intermediary – where complaints were vented and actions taken. For example, one president wanted to extend his mandate without elections. The members called Land O'Lakes/Montenegro and a meeting was held. At the meeting, Land O'Lakes/Montenegro explained that the president serves the membership and not vice-versa. The president and his followers said it was just the opposite, and they should be allowed to modify the constitution. In the end, the members took control of the meeting and set a new election date and did not modify the constitution.

In another instance, the appointed interim director of the Farmer's Trade Association (FTA) was replaced when he announced he would need 0.01 DM per kg of feed sold as compensation. The board promptly removed him from this position, and replaced him with a volunteer.

There are many anecdotes indicating that the power of democracy is alive and thriving within these associations run by farmers. Traditionally, they are at the bottom of the pecking order of traders, government and even donor organizations. When "someone" has to pay, the costs are usually passed along until they reach ground level (both figuratively and literally). Farmers discovered that when they

act together on their own behalf, they rise from the class of traditional peasantry to become a legitimate business.

Technical Support for Milk Production

Farm Records: Record keeping is always the least popular part of any system, in Montenegro or in the USA. The project's strategy has evolved over the last six months since the National Milk Testing Laboratory and Selection Service have really started functioning. More responsibility is being turned over to them.

There are 875 farms that have participated in official recording with the Selection Service. The approach had several aspects:

1. First, Land O'Lakes/Montenegro provided the database software for the Selection Service and brought in a consultant from DHIA (Dairy Herd Improvement Association) in the USA to set up the software and train the field agents. The software can integrate data directly from the testing machines into individual cow records. The records could then be emailed or faxed directly to farmers or their respective associations. The Selection Service records individual cow milk production as part of its "A" recording program. The service provided official data on the best cattle. Montenegro is divided into six regions and each region has an official "milk recording" person employed by the Selection Service. They measured individual cow milk production on the farm once per month, and sent in preserved samples for somatic cell counts and milk component testing to the National Milk Testing Laboratory. Their objective was to identify the best cows and bulls in the Republic in order to improve the breeds.
2. Second, Land O'Lakes/Montenegro initiated "owner-sampler" farm records. The need for "owner sampling" becomes obvious when the sheer numbers of people with one or two cows presented a logistical nightmare for the Selection Service. This is being turned over to the Selection Service and will expand their data and field of services. Farmers form a "sample ring" which means that three to five farmers take turns sampling each other cows, recording milk production and feed fed to the cows once per month.
3. Whole farm records were developed, particularly for those farmers who would use agriculture as their primary source of income. Gene Kuntz, a US farm management specialist, assisted in developing a simple system to track income and expenses, along with simple balance sheets and income statements.

Forage Production: A follow-up series of workshops was conducted in the fall with Endre Kovacs, a forage and alfalfa consultant with Transtrade Consulting and Trading, LTD. The objective was to address any problems encountered on the plots planted with improved seed. The farmers had purchased 10.5 tons of alfalfa seed last summer. Weed problems were the most common since most alfalfa was planted in the spring. This problem will self correct with a good, hard winter. This seed is hardy and the alfalfa will survive, crowding out weeds next spring. There were 81 farmers who attended this round of workshops and expressed their pleasure with the new seed.

Milk Pricing and Improved Milk Quality:

At the workshop in Zabljak, the farmers had a difficult time understanding that milk prices in Montenegro were very good in comparison to world prices. They also said that they had never experienced falling milk prices, or even ones that fluctuate with quality. There were representatives from all 25 associations present and they are very concerned that their membership would have difficulty understanding this process. But, they were willing to work on the problem.

Starting in August 2001, the Ministry of Agriculture eliminated farm milk price supports. This meant that farmers lost 0.09 DM per liter unless the processors picked it up. The total price paid to farmers for raw milk has stayed close to 0.62 DM/liter for milk, which is the only indicator of quality used. This price rivaled Grade A milk in the US, and Extra Class milk in many European countries.

After the Zabljak workshop some dairies started cutting prices. This shook up the farming community. This is the first time they have experienced a drop in milk prices. Now they were willing to join in discussions on milk pricing. Previously, it was difficult to get their attention.

Initial test results reported in December started to give a true picture of milk quality in Montenegro. This further reinforced why farmers needed to become partners in increasing milk quality.

Land O'Lakes/Montenegro produced four brochures and fact sheets on improving milk quality on the farm. They were distributed to 4,000 farmers throughout Montenegro. Demonstrations were given to at least 250 farmers attending cheese competitions and the National Convention, further reinforcing the training material. Local TV stations carried training segments on mastitis prevention and milk quality.

The project also put the FTA in contact with pharmaceutical companies where they could procure sanitizers, CMT kits and other vet supplies.

Artificial Insemination: In response to repeated complaints about the quality of the state run veterinary service and its ability to perform artificial insemination, Land O'Lakes/Montenegro trained 34 farmers in the fall of 2000. The vets were skeptical that farmers could do their own artificial insemination, but the farmers themselves gave 450 doses of semen to 150 cows. Some wanted to form their own service. The training packet they received included basic instruments for AI, but they need nitrogen tanks to complete their equipment. The farmer associations may eventually be able to purchase not only the tanks, but also semen. At the time, all the semen for Montenegro came from Tamarin farms in Serbia. A quick look at the bull pedigrees showed that they are the F1 generation from semen imported from American bulls. Farmers could go directly to the source.

In the fall Land O'Lakes/Montenegro held follow-on sessions and this time, only those who expressed interest were invited to attend. Chris Kurth trained 24 people from 11 associations. Ten of them were new students and 14 came from last year's class to upgrade their skills.

The result of the two training sessions was that 11 of the students were employed as inseminators. Following is a quick rundown of results from six associations:

<u>Association</u>	<u>Number of cattle receiving AI by student</u>
Ulcinj	800
Bijelo Polje	95
Savnik	40
Niksic	15
Stitari	had just started at the time data was compiled

In addition, three public veterinarians came to the training sessions to improve their skills. As a result of AI training by Land O'Lakes/Montenegro, some public vets have gone into private practice, and in one case (Berane) a vet was hired by the Farmer Association.

Farmer associations were now working to import 20 tanks of semen as a result of the training. This had the greatest and quickest potential for improving the genetic potential of livestock. It was much less

expensive and wider reaching than the import of actual livestock. The Ministry of Agriculture was not behind the farmers in this case. They were still looking to import livestock or establish breeding farms for farmers. Farmers would rather do it themselves.

Body Condition Scoring: A total of 225 farmers participated in eight workshops that included body condition scoring and CMT testing. Body condition scoring is a management tool that helps farmers judge how well they are feeding their cows. A perennial complaint from the farmers is the inability to get cows bred. They blame the veterinary service, the quality of the semen and the quality of the imported cattle. Land O'Lakes/Montenegro found that management of the cow is fundamental to breeding, and many animals were poorly fed. As a result of this finding, Dale Dunivan, a consultant in feed formulations and animal nutrition, was brought in to show farmers how to put a value on the body condition of cows. That way they have an objective measure of how well their cow is doing and what sort of score she should have at various points in lactation.

CMT testing (California Mastitis Test) is an inexpensive test for mastitis that is commonly performed on the farm. Most farmers have never tested their cows, and the official veterinary inspection service charges 16 DM for such a test. The complete kit can be purchased for half that amount, and it can test over 200 cows. Land O'Lakes/Montenegro decided to teach farmers to test their own cows. Mastitis is any inflammation in the cow that increases the white cell count. Sick cows not only produce less milk, but also the milk is considered of lower quality in most industrialized countries. With price reforms, farmers needed to get a handle on this situation of their herds. Solving mastitis problems varies from drug therapy (giving a shot or udder infusion) to culling the animal. Farmers were assuming greater responsibility for the management of their stock.

Evidence of Project Impact: There is evidence that the project attained its goal of increasing milk supply. No official statistics were kept on milk production, and the Selection Service was just getting started in measuring milk production. But the number of farms with five to ten cows more than doubled. Also, the milk intake by dairy plants rose over ten percent, corroborating the rise in numbers of dairy cattle in the commercial sector of the dairy industry. The amount of feed concentrate sold rose during the same period. All these indicated the project has attained its goal. The following tables indicate the facts.

Increases in farms of 5-10 cows

Municipality	Farmers with 5 to 10 cows		Increase or decrease of farms with 5 to 10 cows		# of cows on farms of 5 to 10 cows		Increase or decrease of cows	
	1999	2001	Number	%	1999	2001	Number	%
ANDRIJEVICA	3	9	6	300	17	51	34	300
BAR	3	19	16	633	23	118	95	513
BERANE	13	78	65	600	73	476	403	652
BIJELO POLJE	8	145	137	1813	43	947	904	2202
BUDVA	8	11	3	138	58	82	24	141
CETINJE	56	75	19	134	320	479	159	150
DANILOVGRAD	30	31	1	103	195	191	-4	98
HERCEG NOVI		16	16			98	98	
KOLAŠIN	33	80	47	242	186	505	319	272
KOTOR		17	17			103	103	
MOJKOVAC	40	101	61	253	212	613	401	289
NIKŠIĆ	68	385	317	566	461	2520	2059	547
PLAV	5	49	44	980	28	302	274	1079
PLJEVLJA	134	210	76	157	758	1293	535	171
PLUŠINE	80	97	17	121	443	580	137	131
PODGORICA	76	80	4	105	453	488	35	108
ROĐAJE	13	83	70	638	82	499	417	609
SAVNIK	121	154	33	127	633	930	297	147
TIVAT		4	4			24	24	
ULCINJ	76	72	-4	95	476	473	-3	99
ŽABLJAK	44	52	8	118	246	313	67	127
Total	811	1768	957	218	4707	11085	6378	236

Dairy Plant	Average Number of cooperants			Quantity of milk (Tons)			Average Liters per farm			% of Growth
	1999	2000	2001	1999	2000	2001	1999	2000	2001	
Podgorica	2672	2623	2890	11,951	12,771	14,428	4473	4869	4,992	12%
Simsic - Dgrad	70	140	190	375	770	1,107	5357	5,500	5,826	9%
Arena Milk	75	75	71	657	711	807	8760	9,480	11,366	30%
Pljevlja *	890	902	898	1,896	1,934	1,690	2130	2,144	1,882	-12%
TOTAL	3707	3740	4049	14,879	16,186	18,032	4014	4,328	4,453	11%

* Pljevlja is located in an area where there is serious competition from subsidized Serbian milk.

Increase in concentrate feed sales

Feed plant	1999 Total feed sold (Tons)	2000 Total feed sold (Tons)	2001 Total feed sold (Tons)	% of Growth
KOPROM	2,880	2,962	3,124	8%
ABS	10,630	10,300	12,750	17%
ZITOPROMET	6,124	5,762	6,330	3%
Total	19,634	19,024	22,204	12%

Livestock Nutrition: Land O'Lakes/Montenegro negotiated with the Ministry of Agriculture and the USDA to monetize 12,000 tons of corn and 4,000 tons of soybean meal (SBM) through the farmer associations. This rather unique approach would ensure that the recipients are farmers and it would allow them to determine how the funds generated by the sale of corn will be used. The proceeds generated by each association's sales are made available for them to purchase additional inventory for their buying co-ops. This will add up to nearly \$1 million of additional working capital for the associations. However, by mid 2001 USDA nullified the government to government agreement, and Land O'Lakes, Inc. applied to monetize these commodities using the same formula, and was awarded the project by the USDA.

As part of this effort, Land O'Lakes/Montenegro brought in an animal nutrition expert to formulate rations using SBM. Protein is one critical element missing in dairy rations, and farmers have little or no experience using it. Bob Albrecht, during a dairy production consultant assignment in Montenegro in December 2001, tested some of the hay commonly used and came up with simple rations that farmers can use for their cattle based on stage of lactation and cow size. There were 122 farmers who came to informal training sessions held on farms. Twenty-seven farmers actually calculated new rations for their cattle. A local TV station filmed a 20-30 minute training video for Land O'Lakes/Montenegro on the subject.

The NIR forage tester was transferred to the National Farmer Association and a representative from FOSS came down to train two farmers, Land O'Lakes/Montenegro staff, and people from selected laboratories in its use. As a complement to this training, Land O'Lakes/Montenegro purchased a digester component for the Ekotoxological Laboratory who in turn will do the "wet lab" work necessary to calibrate the feed and forage tester.

The NIR forage tester became the heart of "hay" competitions held along with the cheese competition. Farmers were asked to bring in hay samples and they were analyzed on the spot. Those with the best nutritional value received prizes consisting of a scythe and sharpener. This is the first time real data has been collected on hay outside the setting of a study by the Institute.

Other recommendations were given to farmers on intensive grazing, rotational grazing and pasture renovation.

Livestock Housing: Land O'Lakes/Montenegro continued to assist farmers in barn design. Seventeen farms added gutters to their barns and plans for four new barns were completed. Two new barns were built.

Publishing Novi Katun, the Newsletter: The project switched back to a monthly format of Novi Katun. The usual format is one A3 page (the equivalent of 4 A4 pages) printed in two colors on a risograph. The circulation had stabilized at 5,500 copies per month.

Collaboration with EU and Lux Development: Land O'Lakes/Montenegro collaborated with two other development agencies on the development of new programs for farmers. The first used EU funds from the OBNOVA 2000 project. With this project, 1.5 million Euros were slated for equipment purchases for farmers and dairies. Land O'Lakes/Montenegro worked with several consultants to develop schemes for dispersal of this money. Jaques Delamoge worked with the National Farmer's Association and the National Processor's Association to come up with a list for tendering for equipment that would be purchased by farmers and/or dairies through the associations. The list was completed by the time he left, and it was in the hands of the Ministry of Agriculture. Luigi Sandrin arrived as the new head of the EU Fund for Reconstruction. He has chosen to use some of the funds for more technical assistance to assess each request on the list. However, the consultants he eventually hired decided to use the Selection Service and banks to run the program. Although this allowed quicker implementation, the farmers were not happy with the results and it remains to be seen if the project will be able to collect on the debts.

Lux Development is implementing a project in Northern Montenegro (basically from Bijelo Polje to Rozaje). One of the main objectives of this project is to develop the local economy to attract the over 4,000 refugees currently in Luxembourg back to Montenegro. Land O'Lakes/Montenegro laid the groundwork for this project, both directly and indirectly. Land O'Lakes/Montenegro studies formed the basis for the project. In particular, the associations formed in the area are the vehicle for privatizing the Lim Valley Dairy which was an outgrowth of promises made by the Prime Minister and the Minister of Agriculture to the community of Berane about two years ago, to replace the aging and dilapidated Berane Dairy. The GOM renovated a warehouse into a dairy building using funds generated from monetizing USDA corn in 2000.

Luxembourg furnished equipment for the production of UHT milk in the plant. The original business plans were prepared by Land O'Lakes/Montenegro after the GOM had renovated the building. These plans illustrated that the original plans for four to five processing lines were uneconomical. Through the ensuing year, the GOM looked for other donors to complete the new plant. Luxembourg stepped forward. Thus Land O'Lakes/Montenegro played the role of helping to make the best of a marginal idea.

Technical Assistance to Dairy Plants

Milk Pricing Conference in Bijelo Polje Zabljak:

Milk Pricing: The workshops in Bjelo Polje and Zabljak laid the groundwork for milk pricing strategy in a free market. Paul Christ went over several options and the processors went home with a blueprint for pricing milk based on quality and components. However, they did not all agree on how to approach the issue. In subsequent meetings with individual and groups of processors the process continued. Sometimes this involved face-to-face meetings between associations and processors.

About half the dairies have lowered milk prices to .13 - .14 DM/unit of milk fat. One held the price at .17 DM/unit of milk fat and the rest went to .16 DM/unit of milk fat.

They lobbied for continuation of tariffs on imported milk and lost. Land O'Lakes/Montenegro worked with them to develop a strategy that was founded on hard facts and statistics. This involved getting factual information about export subsidies practiced by other countries instead of anecdotal evidence.

Tracking actual quantities of products crossing the border was more problematic. There were no official statistics generated unless there was a tariff, and then the tariff only applied to goods coming from outside Yugoslavia. So, quantities of goods from Serbia were relatively unknown. Importers and distributors were not willing collaborators because of tax laws. So, there were many issues to deal with.

Focus on Farmstead Cheese Production: The last cheese competition of the season was organized by the Kuci association. Each competition had grown in size and complexity from the previous one. This time the association was able to raise 5,000 DM on its own for the competition. There were 46 competitors with 85 samples of different cheeses. What money was left went back into their account for purchasing feed and supplies for the store.

One of the unexpected benefits of cheese competitions was the potential to organize rural women. After the first competition last year, we realized that this was the first time women were recognized for their contribution to household income. In successive competitions this became the drumbeat to the extent that now association presidents proudly recognize women for their roles in the community and family.

When we organized a study tour to the Agricultural Fair in Budapest, we decided to take cheese competition winners. We didn't realize the Pandora's box we had opened. Men at first were reluctant to allow their wives to travel. Two out of three participants that we took to Budapest had never been further than 20 km from home. Our staff found out what life in rural Montenegro is really like for women. These seemingly small opportunities given the women are making big news in the mountains. Based on this experience we looked at one of two alternatives. Either give them an alternative to milking a cow and making cheese, or make this profession more profitable. The cow is a survival necessity for the household, and women do most of the daily routine of caring for the cow and making cheese. Many, if not most, will tell you that if there were any other alternative, they would quit milking. The staff of Land O'Lakes/Montenegro spent time working to figure out ways to improve their condition.

Regional Round Table in Bulgaria: Land O'Lakes/Bulgaria sponsored a regional round table on improving communication in the dairy industry among countries and developing regional markets. Land O'Lakes/Montenegro contributed a paper to the conference on the situation in Montenegro.

Increase in Commercial Milk Processing: The following figures indicate that total milk processed went up by at least 11 percent which was the goal of the project.

Dairy Plant	Average Number of cooperants			Quantity of milk (Tons)			Average Liters per farm			% of Growth
	1999	2000	2001	1999	2000	2001	1999	2000	2001	
Podgorica	2672	2623	2890	11,951	12,771	14,428	4473	4869	4,992	12%
Simsic - Dgrad	70	140	190	375	770	1,107	5357	5,500	5,826	9%
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TOTAL	3707	3740	4049	14,879	16,186	18,032	4014	4,328	4,453	11%

- * Pljevlja is located in an area where there is serious competition from subsidized Serbian milk.

New Product Development: In response to new market pressures, dairies suddenly wanted to diversify their product lines. Two new products made their debut.

The first was drained yogurt that was developed with Vesovic Dairy in Berane. It was introduced commercially at the Berane cheese competition. Land O'Lakes/Montenegro gave the plant the formula and helped in label development. At the competition the manager held a contest to name the product that turned out to be "Kajvar." This is a sort made by mixing drained yogurt with ajvar (a locally made pepper paste).

The second was stirred-curd mozzarella and fruit-in-the-cup yogurt. For this, Bill Broske, dairy processing volunteer to Land O'Lakes, was brought in. Two seminars were held: one in Pljevlja and the other in Ulcinj. In Pljevlja, the plant had an Italian-made machine for making pecorino style cheese with a mozzarella attachment. This turned out to be perfect.

In Ulcinj the plant had more rustic equipment and any of the processors could use this method of production. Since the workshop the plants have experimented with their production and packaging.

Milk Sampling and Testing for Payment: One of the obstacles to developing a new milk pricing strategy was the lack of standard milk testing for payment. As soon as the National Milk Testing Laboratory started testing, Land O'Lakes/Montenegro added an additional staff member to assist dairy plants in collecting samples and shipping them to the lab. The plants claimed they needed a new layer of inspectors and vehicles to run samples to the lab.

Land O'Lakes/Montenegro maintained they could make do with existing equipment and ship by bus, if necessary. In any case, the Land O'Lakes/Montenegro staff person rode the collection trucks to find out what drivers knew and how they collected samples now. What she found was that larger plants had competent drivers that had been trained to take samples for component testing. However, this was not good enough for samples meant for bacteria testing. She found they understood the principle of sanitation very well, but lacked motivation to do it. Smaller plants had drivers that many times were the owners. They understood the principle and did a good job.

In terms of transporting samples to the lab, she found that none of the plants had a real problem. It was more a question of psychology and good will rather than pragmatism.

Collection intervals was an open question. Plants tested about once a month for components. The recommended practice was at least twice a month for components, SCC and bacteria.

The table on the following page summarizes the results obtained in the field.

Field results from milk sampling training

	# collec tion lines	# people in milk collection	# samples per month sent to CMTL for analyses		# samples per month analyzed in the plant		Means of taking sample			Sanitation used?		Basis for pricing milk		Fees charged for analysis		# samples taken during training
			0	≥1	0	≥1	spoon	mixer	milk sampler	Y	N	BF%	Other*	CMT L.	Plant analy sis	
PG	19	2	-	+	-	+	+	+	-	-	+	+	-	-	+	766
NK	7	3	+	-	-	+	-	+	+	-	+	+	-	-	+	182
PV	5	1	+	-	-	+	-	+	+	-	+	+	-	-	+	86
Plav	1	1	+	-	-	+	+	+	-	-	+	+	-	-	+	19
Šimsi □	2	1	-	+	-	+	+	-	-	-	+	+	-	-	+	79
Ikovi□	1	2	-	+	-	+	+	-	-	-	+	+	-	-	+	39
Fructa milk	5	2	+	-	-	+	+	-	-	-	+	+	-	-	+	134
Srna	3	1	-	+	-	+	+	-	-	-	+	+	-	-	+	169
Arena	1	1	+	-	-	+	+	-	-	-	+	+	-	-	+	27
Ekomi ijeko	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

2002 – Winding Down

As 2002 began, Land O'Lakes/Montenegro found itself in the following situation:

- Land O'Lakes had been awarded a contract to monetize 12,000 tons of corn and 4,000 tons of SBM for USDA. Ted Sirianni was brought in to run the monetization program.
- The National Farmer Association was negotiating purchase prices on the corn.
- The National Processor's Association was engaged in discussions on tariffs.
- The Land O'Lakes/Montenegro staff shifted their focus to enhancing democracy and transparency in associations.
- USAID responsibility for Montenegro had been transferred from Pristina to Belgrade.

Agricultural Policy

Milk pricing dominated discussions in agricultural policy formulation. Processors focussed on limiting imports. The EU and Land O'Lakes/Montenegro teamed up again to make the following arguments:

1. Tariffs can only be justified if unfair export policies are documented or a limited period is defined for tariffs to protect local industry.
2. Imposing tariffs on imports to Montenegro would not work because:
 - a. Serbian products could not be included and tariffs on imports would benefit Serbian products with little benefit to Montenegrin products.
 - b. There appeared to be a preference in consumers for imports, and unless local dairies addressed quality issues, consumers would be willing to pay more.

In the end, tariffs were instituted.

The National Farmer's Association, in collaboration with processors, convoked a meeting with the Minister of Agriculture, Customs Service, Minister of Finance and Ministry of Trade to discuss import tariff enforcement. They outlined to the Ministries how trucks avoided inspections and that officials in some cases were corrupted. They agreed to allow farmers as observers on the borders and for them to report the transport of goods they suspected of avoiding taxes. The farmers also cited the repackaging of goods that would normally be charged import duties in Serbia to avoid taxes.

The customs officials accepted this but would not allow observers to look at documents, which made the whole activity rather ineffective. But, it did focus attention on the issue. Much more work needs to be done.

On actual milk pricing, the dairies were starting to feel the bite of the market place. Without access to injections of capital via the subsidies, they were forced to start looking at their viability. Most likely many will be experiencing financial difficulties in the near future and wanted Land O'Lakes/Montenegro's assistance. However, the project is closed and there are no other projects in the field with comparable expertise.

Association Development

The project focused on accountability. The FTA had nearly \$1 million in capital turned over by the Ministry of Agriculture from the first monetization project in 1999. The Local Farmer Associations were selling corn and accumulating nearly another \$1 million in the process. This

was to be used to purchase equipment and agricultural inputs for spring planting. They had little experience in handling this amount of money and Land O'Lakes/Montenegro focused all its attention on helping them develop accounting and reporting mechanisms that would provide for transparency and member control.

Randy Willard, a US consultant, was brought in to adapt Quick Books for use by the associations and develop a simple introductory training program. He was able to set up a template chart of accounts and wrote a simple training manual. He also trained the staff in its use.

During this time, the staff divided the associations among themselves for intensive follow-up on book keeping. They needed to help them track the sales of corn and eventually order equipment and supplies. Most of their time was spent in the field.

They found there was a tendency for officers and members to revert to previous practices where the president would make decisions on use and distribution. But they also found that when reports were generated and meetings were held, the members came to understand that decision making power resided with the members, not the president. Unfortunately, old habits do not change overnight or with one experience. Sustained monitoring and continued work will be necessary. Land O'Lakes/Montenegro had the trust of the membership to do this. New projects coming in will take years to develop the same level of trust.

In the end, the Local Associations had a 100 percent repayment rate for corn sold to their members. They were then required to hold meetings and come up with orders for inputs and equipment. This they did. By the close of the project, nearly all the \$1 million in proceeds had been spent by the associations on inputs and equipment, and was this was accounted for in accounts receivable.

The Land O'Lakes/Montenegro engaged three additional staff to put on three-day training seminars for associations receiving computers from the Department of State. The NFA had applied for and received a grant to purchase a computer and printer for each association for better communication and accounting.

The FTA, on the other hand, was busy purchasing equipment and other inputs for the associations. By the close of the project, they were on track to make the purchases.

The final chapter has yet to be written. By their own admission, they do not have the skills yet to manage these funds. In spite of repeated requests and pleas coming from Local Associations, National Farmer Associations, the Ministry of Agriculture, the Prime Minister, the president and even leaders of the opposition parties, the US Ambassador, the USAID Mission Director, and the head of the USAID office in Podgorica ignored their requests for sustained funding for this particular project.

Continued support to Montenegro was important for many reasons, and this could explain the widespread support by the Montenegrin government. The government took a huge risk in supporting this effort in the beginning since it included opposition people as well as their own party members. They were cautious about giving a voice and power to people they did not control. But, to their credit, they went along and came to endorse the democratic procedures.

The membership grew as farmers came to realize real benefits from membership. Yet they knew that this was a new and novel idea. As such, it was extremely fragile. It was no secret that there is a group plotting to take charge of the nearly \$2 million in capital accumulated in the

associations. This could mean real political power as well as corruption. The chances are very high if no one is monitoring the situation. Both the farmers and the government were counting on Land O'Lakes to continue in this role for at least another two years. Without this sort of honest broker, the system will most likely break down. The trust, once broken, cannot be assumed by others.

USAID has suggested that the CRDA projects that started in 2002, and the ORT project, could pick up where Land O'Lakes/Montenegro left off. A special meeting of the National Farmer's Association board was organized by Land O'Lakes/Montenegro for this purpose. Representatives from CRDA, CIPE, and Opportunity International attended the session dedicated to introducing their programs. Although both the farmers and the project representatives agreed they had good possibilities for working together, neither felt they had the expertise or mandate to supply the technical assistance needed by the associations to maintain them. ORT did not arrive until 11:30 at night and was not able to meet with the associations.

While the project received permission to extend its activities for an additional two months on a "no-cost" extension, it will not be there to support the fall election process. The associations have only one real experience in this. Without intense support from Land O'Lakes/Montenegro the majority will suffer. In the worst case scenario, the entire effort and money exerted by the project in what was one of the most surprising projects in Montenegro will be wasted. The current President of the NFA believes this, as do the top three officials in the GOM.

Technical Support for Milk Production

Two of the three technicians working on technical assistance to farmers were taken by the CRDA projects. So little was done in this area, and emphasis was shifted to working with the associations.

Technical Assistance to Dairy Plants

Likewise, the focus of the staff working with plants shifted to associations, although discussions continued with Luxembourg and FSP.

APPENDIX A.

: *Evaluation Of Land O'Lakes Dairy Industry Restructuring Project in Montenegro*
by Greg Kruse

Evaluation
Of Land O'Lakes
Dairy Industry Restructuring Project
in
Montenegro

January 19 – February 3, 2002

Gregory B. Kruse

Business & Management Specialist

Final Report

Dairy Industry Restructuring Project - MONTENEGRO -

Greg Kruse Evaluation Report
February 15, 2002

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I. Executive Summary

Land O'Lakes was originally conceived as a Dairy sector development project. In the process of establishing the network of relationships upon which this successful project is built, it became apparent that association development was the foundation upon which all progress in the industry would rest. Individual farmers and small dairy processors had no political influence, and they lacked the economic clout to effectively address their economic problems. Farmers and processors both have responded enthusiastically to the opportunity presented to them by Land O'Lakes to organize in order to take over ineffective government services and lobby for better policies for the dairy industry. The project has been directly responsible for creation of local Farmers Associations, the National Farmers Association, and the National Dairy Processors Association. Today, 29 Farmers Associations (FAs) are united in the National Farmers Association (NFA) with over 4,500 members. The Farmers Trading Association (FTA), a private for-profit arm of the NFA, together with the FAs themselves, have achieved a turnover in excess of US \$1,600,000 in 18 months of operation. All processors in the country have joined the National Dairy Processors Association, and are actively involved in the process of establishing national milk quality standards and restructuring the pricing system for milk.

Most measurable results objectives proposed in the project plan have been accomplished, and in most cases original projections have been surpassed. Where circumstances were not conducive to achieving target results from the beginning, the project has succeeded in putting preconditions into place that now permit accomplishment of those results. In addition, many innovative elements have been successfully added to the project portfolio in order to further develop the dairy sector. Only in sheep and goat development has the project not pursued the original plan, simply because it was clear that the greatest impact would be achieved in the dairy cow industry.

As the project nears the end of its third year in Montenegro, the dairy industry stands poised to institute significant changes in producer/processor relations and product quality. The Farmers Association movement has only recently completed its first national meeting (addressed by the President of the Republic, who took the time to circulate among Farmers Association booths and talk with members), and the Farmers Trading Association has not yet hired a permanent manager or completed its first year in business. The National Dairy Processors Association has begun work in earnest since the policy of rapid liberalization of the milk market and free market reforms began less than six months ago. The National Milk Testing Laboratory has been operational for less than three months, and the first formal proposal for national milk quality standards awaits approval. Significant challenges remain, and leaders in government, the associations, and technical institutes were unanimous in their desire for continuing support from Land O'Lakes.

While official statistics indicate that agriculture is marginally important in the economy, it is clear that agricultural products (and livestock products in particular) are an important

element in the social safety net in Montenegro. The value of cheese produced from the milk of an average local "busha" dairy cow is roughly equivalent to the salary of a factory worker (DM 150/month). This explains the very large percentage of dairy farmers who have only two or three cows, and the high proportion of milk (perhaps 90 percent) which passes into the informal sector in the form of traditional processed products. This style of subsistence agriculture is complementary to household income from the formal sector, and in many cases exceeds household formal sector income on a cash basis. About 45 percent of households in the country benefit from some income from farming, mainly from dairy production and cheese making. The Government of Montenegro is aware of the important role livestock plays in social stability in the country. It is the most important subsector of the agricultural economy from a policy and programs point of view, and the Ministry of Agriculture is among the top five ministries in funding.

The project has had a significant impact on both the informal and formal aspects of the dairy industry. Some 85 to 90 percent of total milk production remains in the informal sector, where it is transformed into traditional cheeses and other products. Land O'Lakes sponsored cheese competitions have raised the profile of traditional cheese makers (mainly women), promoted their products in the market, and facilitated communication among cheese makers so that shared knowledge leads to product improvement. At the same time, the formal private sector dairy processing industry is expanding its capacity significantly at both producer and processor levels, while the entire former public sector industry is in the process of privatization. This privatization of state-sponsored industry and growth of private sector dairying is taking place in the midst of dramatic policy reforms engineered by the Government of Montenegro with technical assistance from Land O'Lakes and support from the European Union. Land O'Lakes continues to play a leading role as advisor, "honest broker," and source of technical assistance to all players in the industry, from the Minister of Agriculture to small, private dairy processors, to the farmer in his field.

Did the project accomplish the target results it set out to achieve? In almost all cases, results have surpassed original targets. Where original targets have not been achieved, except for the field of sheep and goats, the project has succeeded in putting into place the preconditions necessary for realization of the original goals.

Were any original project objectives abandoned, and why? The sheep and goat industry was left aside because of the declining importance of sheep and goats in the livestock population, and the steady decline in human population in the mountain villages where this industry is most important.

What accomplishments of the project were not foreseen in the original proposal? Association development has produced a number of socially significant results, the impact of which is difficult to measure. These include the creation of the first women's groups in Montenegro, political and economic empowerment of farmers and rural women, putting the principles of democracy into practice in the Association Movement, introduction of transparency, financial reporting, accountability in association

management, and making participatory management a reality for the 4,500-plus members of the Farmers Associations.

What remains to be done in the program developed by Land O'Lakes? The entire dairy industry development program launched by Land O'Lakes is at a critical juncture, from changes in agricultural policy to restructuring the incentive system for milk production, to creation of a mechanism to ensure that farmers can get what they need in order to produce and market milk and other farm products. Everything has come together in the last six months to make real and lasting change in the industry a possibility. The entire spectrum of institutional innovations and the impact of policy changes have just now put the industry at the threshold of an entirely new, free market way of doing business. Without continuing encouragement, guidance, and technical assistance from Land O'Lakes, it is an open question whether the great promise of this project will be transformed into an enduring reality.

What new activities might the project undertake in the agricultural sector building upon the network of relationships, institutions, and collaborating agencies already established? There is a great deal of work to do to consolidate project accomplishments to date. Introduction of other new activities is premised upon first establishing the level of effort required to ensure sustainability of the many new associations and institutions created by Land O'Lakes. Several possibilities present themselves, based upon relationships established with Farmers Associations, other associations (Greenhouse Growers Association, for example) and the Ministry of Agriculture. These include:

- Horticultural production and marketing, particularly greenhouse growing. Access to market is the main challenge here;
- Wool, meat, and hides building on the project's substantial experience and expertise in the livestock sector;
- Agro-tourism which, although a long shot under present circumstances, and one which is not likely to have any really significant impact on job creation and economic growth in the short run, fits well with the longer term development strategy of the country, in which tourism will doubtless play an important role.

Finally, it is important to recognize that in addition to a truly remarkable program of assistance for development of a free market style commercial dairy industry in Montenegro, Land O'Lakes has also contributed to:

- Food security in Montenegro and the livestock based social safety net;
- Increased rural family incomes;
- Advancing the status of rural women and promotion of women's groups;
- Furthering democracy through the association movement;
- Improving fiscal sustainability of Ministry of Agriculture through elimination of very substantial subsidies to the dairy industry.

II. Background on the Project

Land O'Lakes was the first agricultural sector project in Montenegro after the lifting of the blockade imposed by the UN during the collapse of the former Yugoslav Federation. Operations began in July 1999, shortly after the end of NATO bombing in Yugoslavia. During the early months of the project, there was a ban on travel by official USG personnel into the country. Economic conditions were equally unsettled. Ten years of blockade had reduced Montenegro to a survivalist economy. Agriculture played a significant role in assuring the subsistence of a large portion of the population. Reliable statistics are generally unavailable, but an overview of the economy at that time, coupled with anecdotal evidence from knowledgeable observers, confirms the importance of agricultural production, and livestock in particular, for subsistence of a large proportion of the population (perhaps as much as 50 percent) and consequently for social stability during very difficult times.

Total agricultural land is very limited in Montenegro, estimated at only about 35 percent of total land area. The lack of arable land (found mainly in one major valley and along the coastal strip), steep slopes, rocky terrain, and unreliable rainfall explain the importance of livestock in the agricultural economy. Only a small portion of livestock products passes through formal channels. The livestock economy is largely a subsistence economy, characterized by household consumption, trade with neighbors and friends, and marketing through green markets. It was estimated in the baseline survey, for example, that only about six to ten percent of national milk production was purchased by the dairy processing industry in 1999. It is difficult to assess the significance of this "subsistence agriculture" in the Montenegrin context because many "farmers" receive household income from other sectors. The baseline survey found that 73 percent of farm owners are not primarily engaged in farming.

Despite the informal nature of the livestock sector and agriculture in general, it plays a significant role in ensuring food security and household income in both rural and urban areas. Official estimates put agriculture at only 18 percent of formal GDP. However, it was estimated that 70,000 households rely on milk and cheese sales from dairy cows as one source of income. With an average household size of around four persons, this represents almost half the population of the country, despite the official statistic that the rural population comprised only 7.4% of the population in 1991. This does correspond to the last census figures, which show that about 40 percent of all households reside outside of urban areas.

The significance of this source of income is evident from the value of milk production. One "busha" dairy cow can produce between five and ten liters of milk per day. The formal sector dairy will pay about DM 0.50 for each liter of milk (depending on butterfat content), making DM 2.5 to DM 5 per day in income from one cow, or roughly DM 75 to DM 150 per month. The average household with dairy cows has at least two animals, representing an income equivalent to the average wage for a factory worker. When processed to cheese, the market value of this milk production almost doubles.

Cheese production is, in fact, the principal activity of the informal dairy sector. The 90 percent of milk production that never finds its way into the formal processing sector is first fed to calves for veal production (45 days), and then the remainder of the lactation is transformed into traditional products like skorup (a fermented butter) and cheese.

Sheep and goat production has declined in importance in Montenegro for several reasons. Tito conducted a campaign to eliminate goats, ostensibly for environmental reasons, and the goat population has never recovered. The sheep population is also in nearly perpetual decline, particularly during and after the wars in the region, when many animals were sold to Bosnia for slaughter. The traditional importance of these animals in the Balkans has declined with the steady decrease in the rural population, which has fallen from more than 80 percent of the population as a whole in 1948 to only 7.4% in the census of 1991.

The formal sector dairy processing industry was state-dominated until very recently. Even now (January 2002) the four largest dairy processing plants in the country are only nominally privatized, although the state is no longer the largest shareholder. Prior to recent reforms, milk prices at the farm gate and retail were state controlled, both producers and processors received a state subsidy per liter of milk sold, and processors were required to respect an 80/20 quota of fluid milk to other products in order to gain access to price subsidies. The state also subsidized the price of diesel fuel to dairies in order to help cover collection costs, since the farm gate price and retail price of milk were the same. The only quality criterion applied to milk was butterfat content, but farmers complained that their milk was not evaluated fairly. Dairy products at retail were of poor quality and limited variety compared to Serbian or imported products. A few small private dairies had started operations in 1999, mostly focused on yogurt production, which was more profitable than fluid milk. These operators processed between 600 and 2,000 liters of milk per day.

There were very few "commercial" scale dairy producers when the project began operations in 1999. Anyone whose herd produces more milk than they can comfortably transform into cheese might be considered a commercial dairy farmer. This occurs when herd size reaches about ten animals with local levels of productivity. The baseline survey estimated that less than 5 percent of dairy cattle in the country were found in herds of more than five animals.

Farmers were dependent on state-operated zadrugas (cooperatives) or private traders for input supply. The former system was grossly inefficient while the latter was greedily opportunistic. Many farm inputs (improved seed, appropriate fertilizer blends, some types of farm equipment) were unavailable.

Because of the heavy state influence in the industry, there was no effective incentive system to encourage farmers to increase the quantity of milk produced or to pay attention to milk quality. Processors also had little incentive to focus on product quality and diversification, despite the fact that they were obliged to compete against superior Serbian and imported products in the market at retail. Furthermore, producers lacked

access to inputs, breeding technology, and milk handling technology to effectively increase the quantity and quality of milk delivered to the formal sector.

III. Project Impact Relative to the Original Plan

Part One: Did the project accomplish the target results from the original plan?

A tabular summary of actual project results compared to mid-term and end-of-project target results set out in the original plan will be found in Appendix A, Results Matrix.

The project has, in most cases, surpassed original goals by a wide margin, and in addition made very substantial contributions to development of a more favorable business environment and supporting institutions for the dairy industry as a whole. Where original goals were not feasible at the beginning of the project, agricultural policy and circumstances in the business environment and dairy industry have been modified by project activities so that these goals are now realistic. The project did not work with sheep and goat producers as originally projected.

Original project goals fell into four categories. A discussion of the background and scope of original goals in each category and a summary of progress to date follows.

1. Agricultural Policy Reform

Mid-term goal: Policy Task Force in collaboration with Ministry of Agriculture completes dairy cost-benefit analysis.

End-of-Project goal: Targeted government and policy regulations that shift \$1 million over three years to dairy and livestock economic enhancement programs.

The dairy industry was heavily subsidized and controlled in 1999, and about 90 percent of processing capacity was held in the public sector. Both milk producers and dairy processing plants received a per liter subsidy from the Government of Montenegro (Government of Montenegro) amounting to 50 percent of the price of milk at retail, which was controlled (18 Pf/l. subsidy split 50/50 producer/processor, and a fixed retail milk price of Pf 36/l.). Processors received fuel subsidies to help cover the cost of milk collection. Processors were required to devote 80 percent of processed product to fluid milk (apparently a loss-making product because of the retail price control) in order to qualify for the milk price subsidy. This subsidy was costing the Government of Montenegro about US \$1,000,000 per year. Other subsidies to the dairy industry amounted to an additional US \$500,000 per year, focused primarily on encouraging increased herd size and breed quality. While the Montenegrin industry was under competitive pressure from Serbian and imported products, the subsidy system and business environment was not providing the incentives necessary to encourage the industry to adapt and prosper.

The project proposed to develop a task force to assist the Government of Montenegro in evaluating the situation in order to create an environment in which both quantity and quality of domestic product would increase, while avoiding unsustainable levels of subsidy from government. It further proposed to shift Government of Montenegro

spending from unsustainable and counterproductive subsidies into services supportive of development of an economically viable dairy industry.

Project accomplishments in this area have been remarkable, and attest to the very considerable political will and vision provided by the Minister of Agriculture. Effective collaboration with the European Union enabled the creation of incentives for policy change at the highest level through loan conditionalities. Mr. Paul Christ, recently retired Land O'Lakes Vice President responsible for Dairy Policy, facilitated two national workshops on dairy industry policy issues. All direct milk production subsidies to producers and processors were removed in August 2001, freeing up almost US \$1 million per year for other uses in the Ministry of Agriculture. The producer and retail prices for fluid milk were liberalized, quotas for fluid milk were eliminated, and protective tariffs were removed.

These steps have drastically altered incentives for production and quality control in the industry. Coupled with many other project supported changes in the industry (see below) it is likely that there will be increases in commercial milk production and dairy processing, improved product quality, and a greater variety of local products delivered to the consumer at more competitive prices. These trends are already clearly underway in those areas with rapidly growing small private dairy processing plants. Nominally privatized formerly public sector processing plants are naturally lagging behind.

At the same time that the Government of Montenegro has liberalized its policies in the dairy sector, it has strengthened services to the sector through programs designed and supported by technical assistance from Land O'Lakes. A national milk quality testing laboratory has been established to provide objective, unbiased milk quality analysis in support of quality-based milk pricing. National milk quality standards are under negotiation in cooperation with the National Dairy Processors Association and the National Farmers Association (both created through the efforts of Land O'Lakes). Artificial insemination (AI) services are being transferred progressively to the private sector with Land O'Lakes technical assistance and training, and a national selection service now uses DHIA herd management software, a farm record system, and input from the milk quality testing lab (all introduced to Montenegro by Land O'Lakes) for a national livestock improvement program.

The Government of Montenegro has allocated US \$900,000 (from US and EU sources) to set up improved programs and the milk quality testing laboratory, and will budget almost US \$400,000 per year to operate them. Savings generated from elimination of milk price subsidies are more than sufficient to cover these annual operating costs. None of these services compete with private sector initiatives. It is planned to eliminate the national veterinary service in the near future and allow private veterinary services to take over their responsibilities.

2. Association Development

Mid-term goals: Ten local/regional associations of producers are formed; each association will provide one new service to members.

End-of-Project goals: Five formal associations (either local or national) will be established; each association will provide at least two new services to members.

There was already a glimmer of a rising private sector in dairy production and processing in 1999, but it was extremely fragile and limited in scope. Ninety percent of processing capacity was held in former state-owned dairies, for which privatization was an ideal but not yet a reality. Government controlled input supply and services to the livestock sector were inefficient and ineffective. Further development was constrained by these factors as well as the failure of the policy environment to provide appropriate incentives for change. Farmers and private dairy plant operators had virtually no influence over Government of Montenegro agricultural sector policy. They operated at such a micro scale (2.04 cow average dairy herd size and 2,000 liters per day or less processing capacity in privately owned small dairy plants) that they had no weight in the marketplace, and were unable to effectively address their input supply and marketing needs.

The original proposal had suggested that association development would proceed based on organization of producer groups for technology transfer, training, and to negotiate price and quality issues with processors. No negotiations were possible until the Government of Montenegro liberalized prices in the dairy sector in August 2001, and no serious improvement of quality standards was possible until the milk quality testing laboratory was established in November 2001. National standards for milk quality are currently proposed, but not yet agreed at this time (January 2002).

However, collaboration with the EU OBNOVA program enabled a rapid start in reaching farmers, as Land O'Lakes provided training along with delivery of 1,000 head of dairy cattle from the EU. Cooperazione Italiana then agreed to provide feed supplements, the sale of which served as seed money for the establishment of Farmers Associations (FAs) engaged primarily in feed buying. Turnover of the original value of US \$75,000 exceeded US \$200,000 within six months.

By the end of 2000, the project had organized and formally registered 22 Farmers Associations, with over 2,000 members, and also created a National Farmers Association (NFA), with democratically elected leadership. Over 1,200 farmers voted in the first election.

The Association movement was adopted with great enthusiasm by farmers all over the country. At this time (January 2002) there are 29 registered FAs, with over 4,500 active members. Turnover in association feed trade has passed the US \$1,000,000 mark. The NFA held its first annual meeting in December 2001, and

elected its officers with a 57 percent turnout to vote. The President of the Republic addressed the meeting and mingled with FA members afterward for over an hour.

The NFA created the Farmers Trading Association (FTA), registered as a commercial import/export company, to facilitate services to members. This company, wholly owned and operated by the NFA, is capitalized from sale of USDA monetized corn and soybean meal in accordance with two Memoranda of Understanding signed by the NFA, Land O'Lakes, and the Government of Montenegro. The FTA has realized over US \$600,000 in sales to FA members in its first six months of operations.

In addition to livestock feed, the NFA/FTA/FA network is engaged in:

- General farm supply (seed, fertilizer, veterinary medicines, farm equipment);
- Breed improvement through A.I. services and importation of semen;
- Milk price negotiations with dairy processors following price liberalization;
- Marketing of lamb and wool;
- Facilitating Government of Montenegro services and support to farmers.

Land O'Lakes has used the FA movement to provide technical training in a variety of subjects, including evaluation of livestock, formulation of feed rations, forage crop improvement, barn design, pasture and rangeland management, and cheese competitions.

In addition, three women's groups based on cheese making have formed as sub-chapters of their local Farmers Association. The cheese making competitions have afforded rural Montenegrin women one of their first opportunities for public recognition and participation in events outside their home village. The national level publicity of these competitions has not only greatly assisted some women in marketing of their products, but has also served to raise the public image of rural women.

The spectacular success of association development attests to the strongly felt need for social change and new methods of organization and problem solving on the part of farmers and rural women throughout the country. The movement has not only served these needs well, it has also provided practical experience in the workings of a democratic society, transparent and accountable management, and financial reporting. Perhaps most importantly, it has demonstrated that once powerless farmers can now have political influence and economic clout, and even gain the attention and respect of the President of the Republic.

3. Dairy Production

Mid-Term goals: At least 75 target farms report a 10 percent increase in overall profit, and at least five collection points are established; 25 percent of the dairy producers who participate in Land O'Lakes training programs increase milk production by 10 percent.

End-of-Project goals: Milk collection points improved; fixed assets on 250 target farms measured by equipment purchases increase by 10 percent over three years; 15 producer organized collection points established; 50 percent of dairy producers receiving training under the Land O'Lakes program increase milk production by 10 percent.

The results criteria of the original project proposal are awkward to apply in Montenegro. Farm level "profit" has never been measured. Farm assets, similarly, are an unknown quantity. Until the project initiated a farm record system, there was no reliable statistical data on dairy production in the country. There has been no incentive for either farmers or processors to establish milk collection points until recently. Sheep and goat milk are almost invisible in trade, since they are often mixed with cow's milk in cheese making, and rarely sold or processed separately. Consequently, the project has focused on dairy cow production.

Available data does indicate that milk production at the farm level has increased significantly by several measures (see Milk Collection, Herd Size, and Cheese Producer Income Tables in Appendix B):

- Production per lactation is increasing;
- Production per farmer is increasing;
- Total milk production in each processor zone is increasing;
- Many traditional cheese makers are increasing their herd size and milk production;
- The number of farmers with "commercial" size herds is increasing.

No farm level production data are available; hence, the above claims are made based on inference from milk collection statistics and anecdotal evidence.

The Farmers Trading Association has a long list of orders for farm equipment from FA members, including milking machines, milk cans, and cooling tanks. A first tender is let for farm equipment purchases totaling US \$250,000.

The Berane dairy plant project is in the process of establishing milk collection points, and several dairy processors are now considering adding a "stop charge" to the milk pricing system to encourage farmers to pool their milk at collection points. Until quality based pricing is instituted, there is little incentive for farmers to cooperate with collection points.

Land O'Lakes has clearly shown significant results in the area of increased dairy production. This has been accomplished by a consistent focus on three coordinated approaches:

- Improvements in the agricultural policy environment to create the necessary incentives for change in the dairy industry as a whole;

- Improvement of the farm business environment through association development, so that farmers can get what they need in order to increase production and market their products profitably;
- Technical assistance for improved productivity.

The first two points have been covered under their respective headings. In the area of technical assistance for dairy production, Land O'Lakes has created a very comprehensive program and delivered improved inputs and services to farmers in the following areas:

- Livestock feed concentrates (corn, soybean meal, wheat bran, brewers grains - over US \$1,600,000 sold by the FA movement so far);
- Improved forage crops through introduction of Legend Alfalfa;
- Pasture and rangeland management training through the FAs;
- Improved barn design for animal health (145 farms have improved or constructed barns);
- Herd improvements through training to recognize superior conformation, A.I. services with imported semen, and introduction of the DHIA system to the Selection Service;
- Introduction of a farm record system to enable better decision making for cattle breeding.

It is important to note that most of the above listed contributions to increased productivity have been introduced in a sustainable manner. The Farmers Association movement is sufficiently capitalized so that if it continues to operate in a business-like manner, it can continue to provide services to its members indefinitely. Artificial insemination services are delivered by farmers and veterinarians trained by the project. These are private services for which farmers are willing and able to pay. The FTA is now learning the ropes of importing semen from the U.S. and will be able to continue to do so in the future. The state veterinary service will begin a process of privatization in the coming year. The Government of Montenegro is now focused on providing services to a private dairy industry instead of competing with it. The National Selection Service and the milk quality testing laboratory are more than adequately funded with savings from elimination of milk price controls and subsidies. The farm record system operated by the Selection Service may provide the most reliable farm level agricultural statistics ever collected in Montenegro.

This is a very substantial list of accomplishments. **Careful consideration should be given to the level of effort required to consolidate these achievements so that the benefits they offer will be assured into the foreseeable future.** Institution building takes time. People do not readily adapt to new ways of thinking and doing business in a short time frame.

4. Dairy Processing

Mid-Term Goals: Profitability of processors increases by five percent over baseline from new product development and marketing activities; at least five new profitable processing and marketing SMEs established.

End-of-Project Goals: Profitability of processors increases by 10 percent over baseline from new product development and marketing activities; at least 15 new and profitable processing and marketing SMEs established.

As with the dairy production target results above, the profitability criteria for dairy processing are difficult to apply in the Montenegrin context. Public sector processing plants do not keep their books in a manner to facilitate calculation of profit as we know it, and private sector plants may keep three sets of books, all with different profitability results. The objective of inserting a fairly large number of "new and profitable" processing enterprises into a restricted market facing substantial competition from Serbian and imported product was very ambitious.

Dairy processing in Montenegro takes two distinctly different forms. Traditional processing, which handles approximately 90 percent of the milk produced in the country, is an informal sector activity, with a very significant impact on income for a large percentage (perhaps 45 percent) of households. The principal product is cheese, characteristic for each region, and other traditional products such as skorup (fermented butter). Formal sector processing, still dominated by nominally privatized public sector facilities, transforms the roughly 10 percent of national milk production it is able to collect into a small range of basic products which must compete at retail with better quality products from Serbia, Croatia, Slovenia, and beyond. Until recently, the state controlled prices and production quotas imposed on the industry severely limited profitability. **The project has had a very substantial impact on both informal and formal dairy processing.**

In the informal sector, working through the network of Farmers Associations, the project held cheese competitions in five different regions. These events were publicized widely through the media (television, radio, and newsprint). Cheese makers suddenly found the demand for their product had increased. **Numerous benefits were realized from the cheese competitions:**

- Publicity generated interest in local products of superior quality and improved marketability;
- Cheese makers for the first time began to compare products and exchange ideas and production know-how; this resulted in higher standards of quality and an overall increase in product quality;
- Rural women began to organize into groups based on their common interest in cheese making;

- Rural women were given the opportunity to travel outside their home village and play significant roles in public events as both contestants and judges.

Some cheese makers have significantly increased their herd size and cheese production following the success of the cheese competitions (see Table B-5 in Annex B). Statistics are unavailable in the informal sector to permit accurate evaluation of the broader impact of this element of the project.

Project impact on formal sector processing has been considerable, but at this point the work required to realize the benefits of project contributions remains to be done. Changes in the agricultural policy environment have completely restructured the incentive system for the industry. Creation of the national milk quality testing laboratory and promotion of national milk quality standards have created the possibility of quality based milk pricing, and therefore improved the outlook for domestic product quality. Development of the Farmers Association movement has created the possibility of the rapid growth of commercial scale dairy production. The Dairy Processors Association has only recently begun to see clearly the role it can play in support of the industry now that the policy environment has evolved.

In addition to agricultural policy and business environment support for the industry mentioned above, Land O'Lakes has also provided technical assistance directly to dairy processors in the following areas:

- New product development : mozzarella, kajvar, & fruit flavored yogurt;
- Hazard Analysis and Critical control Points (HACCP) training;
- Business studies for Lim Valley Dairy to secure donor financing;
- Feasibility study (negative) of Mini-Dairy proposal from Government of Montenegro;
- Expansion planning and finance (Arena, Simsic, Srna);
- Consumer preference survey;
- Market price survey;
- Trade contacts for equipment supply.

It was not possible during the short time frame of this evaluation to compare current processor profitability with estimates from J. Raoul-Duval's report (March 2000). However, it was clear from meetings with small private firms that they are thriving. Both Simsic and Arena dairies are increasing capacity from 2.5 tons of raw milk per day to 10 tons per day. Both are investing in new equipment and building new facilities with assistance from EU loan programs that they have accessed with assistance from Land O'Lakes. Both are considering a variety of new products to facilitate marketing their increased production, including new products introduced by the project. Both claim that milk supply is no longer a problem in their area, since milk production has increased significantly, and that they can compete effectively against the large Podgorica Dairy for the milk supply because of superior supplier relations (regular collection, on time payment, fair evaluation of milk quality).

In the SME development arena, the project's greatest success lies in the creation of 29 Farmers Associations and the Farmers Trading Association, all of which are actively engaged in the farm supply business, with total turnover now in excess of US\$1.6 million. In addition, Land O'Lakes has assisted the following fourteen dairy processing enterprises:

- Podgorica Dairy (HACCP training and new product exploration);
- Niksic Dairy (HACCP training);
- Srna Dairy (expansion and HACCP);
- Plav Dairy (HACCP and revived cheese production);
- Ikovic Dairy (HACCP);
- Bjelo Polje Dairy (revived with Lux Development assistance);
- Vesovic Dairy (HACCP and new product development – Kajvar);
- Misel Dairy (HACCP and marketing);
- Fructamilk Dairy (HACCP and product improvement);
- Pljevlja Dairy (New products : mozzarella, fruit-in-the-cup yogurt, and HACCP);
- Ekomilk (HACCP);
- Lim Valley Dairy (new project in collaboration with Lux Development);
- Arena Dairy (expansion from 2.5 to 10 tons per day);
- Simsic Dairy (expansion from 2.5 to 10 tons per day).

The potential for real and measurable improvements in the dairy processing sector has increased substantially due to project interventions. The dairy processing industry stands at the threshold of a competitive business environment, thanks to agricultural policy reforms enacted within the last six months. The preconditions are now in place for quality based milk pricing, but the institutional mechanisms for making it work (milk quality testing laboratory, Dairy Processors Association, price negotiations with Farmers Associations) are as yet untested. The potential for larger scale commercial dairy production has also been improved through institutional development (Farmers Associations and Farmers Trading Association for training and input supply, Selection Service, farm record system, privatization of artificial insemination services for breed improvement) but these institutions are also in their infancy. **The project has succeeded in putting in place the preconditions for creation of a competitive free-market processing industry.**

Similarly to the accomplishments of the Farmers Association movement, careful consideration of next steps is required in order to consolidate achievements in dairy processing. All players interviewed in the processing industry (small private processors, the manager of the largest dairy in the country, the president and members of the Dairy Processors Association, and the Minister of Agriculture) were unanimous in their desire for continued support from Land O'Lakes as they work through the implications of the radical transformation of the industry which is now underway.

Part Two: Did the project change direction along the way?

In most respects, the project has adhered closely to the original plan. However, while not specifically mentioned in the wording of target results, the original proposal indicated that Land O'Lakes would work with large numbers of sheep and goat producers for association development, product improvement, enterprise development and marketing. This aspect of the project was not pursued because the greatest opportunity for impact was clearly not in this sector, which is declining in importance. The sheep and goat populations are decreasing, as is the human population of mountain villages where this production is concentrated. Almost all cheeses produced in Montenegro, for example are primarily made of cow's milk, although sheep and/or goat milk may be mixed in when it is available.

Nonetheless, it is fair to ask what potential there may be to increase the value of sheep and goat products, particularly wool, meat, and hides. The carrying capacity of mountain pastures is apparently much greater than current exploitation. There are three meat processing plants in the country (Plav, Bjelo Polje, Niksic) which utilized imported, subsidized EU carcasses rather than local meats. Wool quality is low by textile standards, but is apparently suitable for carpet manufacture. Traders from Turkey buy hides in Montenegro. The true potential of these business opportunities remains to be investigated.

Although the program has consistently maintained the original goals of the project and results as discussed above clearly show this, the project has become as much an association development project as a dairy sector development project. This does NOT represent a change in direction, but it is important to note the implications of the success achieved with the NFA, FTA, the regional FAs, and the DPA. The emphasis on associations has laid the foundation on which future growth and development of the agricultural sector can be built. The long-term success of project interventions will depend upon the sustainability of the associations. They are very new, and still developing the internal strength of purpose and institutional character to carry them forward without external support.

Part Three: Did the project have any unplanned impact?

The project has had unplanned effects of the following types:

- Political and economic empowerment of farmers and farm women
- Creation of women's groups
- Institutionalizing democracy
- Introduction of principles of transparency, financial reporting, and participatory management
- Liberalization of agricultural sector policy in general (government as supporter of the private sector, not provider of goods and services)

Each of the above represents a significant achievement.

Rural exodus is a problem in Montenegro as in many other formerly rural societies. Young people are leaving the villages, which are now populated by the elderly. Young men and women no longer choose to follow their parents' example and build their future on farming, despite the fact that unemployment is high in urban areas and the future very uncertain. **The project has done a great deal to raise the hopes of farmers for a better future.** This is one reason the Farmers Association movement has achieved as much as it has in such a short period of time. It is also a reason for concern about the future of the Farmers Associations, since collapse of these institutions may have profound social and economic consequences.

Women's groups have formed around the cheese making competitions. Rural society in Montenegro is male dominated, and women have few opportunities to travel outside their home village, seek education, or organize and work together for a common purpose. This formation of the women's groups was an unexpected benefit of the cheese competitions.

The Farmers Association movement operates on democratic principles. The leadership and executives are elected and can be removed by the membership. Farmers have readily taken to this process, and abuses of the leadership are being addressed by active participation of the members. This process is still novel and not yet firmly institutionalized, not because people are unaccustomed to voting, but because they are not used to having a real choice.

Similarly, the role of the membership in management, and the responsibility of management to be responsive to the membership through transparency and financial reporting on a regular basis, are novel ideas in Montenegro. In fact, the FAs and the FTA are currently undergoing a series of crises as various questionable practices by management come to light. This is to be expected, and assistance from Land O'Lakes to work through this stage of development may be necessary, since no other institution appears capable to play the role of umpire in this new game.

The extent to which a fundamental shift in Government of Montenegro agricultural policy has been institutionalized is open to question. The present minister appears to clearly understand and support the western notion that government should play a supporting role for the common interests of the private sector but not compete with them. He is currently moving toward privatization of state veterinary services, for example. It is unclear whether a change in the administration would result in equal support for free market reforms in the future.

IV. Status of the Dairy Industry and Assistance Needs

The entire Montenegrin dairy industry has evolved significantly since the project started operations in mid-1999, thanks in large measure to the efforts of Land O'Lakes. Most changes have been touched upon in our discussion of the results achieved by the project. They will be summarized here so that we can focus on what remains to be done in order to realize the full benefit of changes accomplished thus far.

The industry remains split roughly 85/15 percent between informal sector (household production and traditional processing) and formal sector dairy processing.

Informal sector production and processing provides a significant boost in family income for about half the households in Montenegro. Milk is first used for veal production, with calves sold at 45 days, mainly at green markets. The remainder of the lactation goes into household consumption, local informal or formal sector trade (about 95 percent of the milk delivered to commercial dairies comes from informal sector producers with less than five cows), and traditional cheese production, where value added is significant. The value of cheese produced from a single lactation is roughly equivalent to the annual salary of a factory worker.

There are no reliable national data on milk production in Montenegro as yet. The farm record system recently introduced with technical assistance from Land O'Lakes to the National Selection Service will eventually help to fill this gap (845 farms are currently in the survey). It is therefore difficult to assess the extent to which production has increased since the project began. Limited figures available seem to indicate average annual milk production increases between four and 14 percent, although these figures are based on collection data, not production statistics. It is estimated that only about 15 percent of national milk production finds its way into formal sector processing, so the bulk of national production is "invisible." The National Dairy Processors Association would like to assess the milk balance (i.e., national production vs. national consumption) as part of a proposal to government to limit competition from imported products, but available data are inadequate for this purpose. Even consumption data are lacking, since quantities of imported dairy products (e.g., UHT milk) are also unknown.

The Farmers Associations promoted by Land O'Lakes have facilitated delivery of technical training and inputs to household milk producers. These services (listed above under Project Impact), now in the hands of local Farmers Associations, are focused on improved animal nutrition, health, breeding, and husbandry. It is difficult to quantify the impact of these services on productivity at the household level, but there is no doubt that a comprehensive program of this type will increase household milk production, and therefore, household incomes. The reduction in cost of purchased livestock feed and concentrates of about 30 percent achieved by FA marketing should contribute to both increased production and decreased production costs. With proper incentives (regular milk collection, prompt payment, fair evaluation of milk quality) these changes will also encourage some farmers to graduate to commercial scale milk production.

In fact, there has been a 200 percent increase in the number of farmers with commercial herds (11 or more cows) in municipalities with Farmers Associations. The increase in farmers with between five and ten head has been similarly impressive (see Tables B-3 and B-4 in Appendix B). The development of commercial scale dairy production is essential to the long run health of the dairy sector in Montenegro. Milk quality and collection costs will be directly affected, and the basis of negotiations between producer groups and processors will be quite different, as well.

Cheese is the most economically important product in traditional processing. Land O'Lakes has promoted traditional cheeses through regional cheese competitions. Local media (newspapers, radio, and television) have covered these events, and the publicity generated has improved the marketability of traditional cheeses. Some cheese makers are increasing their herd sizes and cheese production in response to market demand generated by the cheese competitions (see Table B-5 in Appendix B). Most cheese makers are women, and three women's subchapters of local Farmers Associations have formed around this common interest. While traditional Montenegrin cheeses probably have limited export potential, the best quality local cheeses can compete favorably in local markets with imported product. Improved packaging and marketing would advance this cause. Standards of hygiene in the local cheese making industry need to be established in the interest of public health and marketability of local products.

The business environment and market conditions in the formal dairy processing sector have changed dramatically due to project interventions in agricultural policy, as described under Project Impact, above. At the same time, privatization of formerly state-owned processing plants is occurring in parallel with the rapid rise of small scale private operators. Technically, all formerly state-owned processing plants are now held in majority private ownership, but in practice, management and attitudes are changing slowly, and state entities are still important shareholders. The private sector has seen one notable failure (Ekomilk is bankrupt) and several apparent successes, like Simsic Dairy in Danilograd and Arena Dairy in Ulcinj. Both of these operations are significantly increasing their capacity with equipment loans from the EU and technical assistance from Land O'Lakes). Full privatization of the Niksic Dairy (second largest in the country) by the local Farmers Association is under study (with assistance from Land O'Lakes), and a new, large dairy is under construction in Berane with funding from Lux Development and technical assistance from Land O'Lakes.

The addition of the Berane Dairy and expansion of Simsic and Arena dairies represents roughly a 45 percent increase in processing capacity in Montenegro. Competition among dairies will increase both for milk supply at the producer level (Simsic and Arena compete directly with Podgorica Dairy, the largest in the country) and in the marketplace at retail. Aggressive entrepreneurs who feel that they have a competitive advantage relative to established players in the market manage the smaller dairies. They manage their producer relations more intensively by collecting every day, paying promptly, and establishing a reputation for fair dealing. They have strategies for dealing with seasonality through variable pricing and expanding and contracting their supplier base.

They see opportunities in the marketplace for new products like fruit yogurt (TA by Land O'Lakes), kefir, and chocolate milk, and count on these products to enable them to place their increased production on the retail shelves. Anecdotal evidence indicates that local product flies off the retail shelf, and morning deliveries are sold out by midday.

All dairy managers interviewed expressed a strong desire for continued technical support from Land O'Lakes as they go forward with their expansion plans in the midst of rapid changes in the industry. They were also unanimous in their concern for support from government in the face of what many view as unfair competition from Serbian and imported products. They feel that Land O'Lakes has a role to play in providing an unbiased assessment of charges of dumping, unfair tax treatment, and the effect of foreign agricultural subsidies on the local and export market for dairy products.

The most dramatic changes in the formal processing sector are about to occur as this is written (February 2002). Farm gate and retail milk price controls and fluid milk production quotas have recently (August 2001) been eliminated thanks to a series of national dairy policy workshops sponsored and facilitated by Land O'Lakes and the strong support of the Minister of Agriculture and the EU. National standards for milk quality are proposed, but not yet formalized. The Milk quality testing laboratory (funded by the EU and established with technical assistance from Land O'Lakes) is operational in the Ministry of Agriculture, but has not yet been integrated into the production and processing system. Farmers are aware that pricing will soon be based on several measures of quality, not just on butterfat content as in the past, but they are unsure of how to meet the new requirements, and facilities for collection and cooling of milk are limited. All players in the industry and the Minister of Agriculture indicated their desire for continuing support from Land O'Lakes as they work through the implications of a new way of doing business.

The principal tasks remaining to accomplish on-going elements of the Land O'Lakes program are:

- Strengthening of the Farmers Association movement at all levels (NFA, FTA, and 30 FAs) for a variety of responsibilities, including:
 - ✓ Financial management, reporting, and transparency at all levels;
 - ✓ Participatory management and democratic principles of operation;
 - ✓ Financial planning and management training for the FTA as it attempts to transition from its current privileged status to a commercial basis;
 - ✓ Importation of semen for improved A.I. services;
 - ✓ Feed, seed, fertilizer & equipment importation and distribution;
 - ✓ Milk price and other negotiations with processors;
 - ✓ Member training for milk quality improvement;
 - ✓ Establishing collection points;
 - ✓ Marketing of member products;
 - ✓ Support to cheese makers, and therefore to women's groups, for improved product quality (hygiene standards), packaging, and marketing;
 - ✓ Representation of farmers to government for policy issues.

- Technical assistance in support of the Ministry of Agriculture for:
 - ✓ Operation of the milk quality testing laboratory;
 - ✓ Agricultural policy issues affecting the dairy industry, most notably to evaluate requests for import protection;
 - ✓ Implementation of the Selection Service and associated farm record system.
- Assistance to the Dairy Processors Association and its members to enable them to adapt to new rules and regulations, new producer relationships, and the rigors of a competitive marketplace:
 - ✓ Establishment of national milk quality standards;
 - ✓ Milk price negotiations with producer organizations;
 - ✓ Setting up milk collection points;
 - ✓ Financial management;
 - ✓ Marketing in a competitive marketplace (pricing, packaging, promotion, distribution, market information);
 - ✓ New product development;
 - ✓ Plant management for rapidly growing private companies;
 - ✓ Negotiations with government regarding import protection.

There are few issues in the dairy sector that have not already been addressed to some extent by Land O'Lakes. Possibilities for additional services in support of the industry include:

- Financial pro-formas for the processing industry to assist them in pricing strategies on the input and output side;
- Market information for producers to assist them in price negotiations with processors;
- Market information system to assist processors in pricing and new product decisions.

V. Other Agricultural Sector Interventions

Three areas emerge as offering the greatest potential building upon the experience and relationships already gained. These are also high priority areas for development from the point of view of the Government of Montenegro, as discussed in a meeting with the Minister of Agriculture. These are:

1. Further work in the livestock sector

This intervention has the advantage of being closely related to on-going project activities. Existing relationships and project staff experience are relevant and can be directly put to work.

Wool, meat, and hides are all available from existing production systems, production and quality could probably be increased, and the market potential and value of these items might be improved. The carrying capacity of mountain pastures is apparently much greater than current exploitation. There are three meat processing plants in the country (Plav, Bjelo Polje, Niksic) that utilized subsidized imported EU carcasses rather than local. Wool quality is low by textile standards, but is apparently suitable for carpet manufacture. Traders from Turkey buy hides in Montenegro. The true potential of these business opportunities remains to be investigated.

No conclusions could be drawn in the brief time available during this evaluation. Access to market and the marketability of these local products are big issues that could make or break an intervention in the livestock sector. Other factors might include dumping by the EU or other market distortions. This would take the project back to look once again at sheep and goats, and the veal market and beef cattle, as well as dairy cattle. An expert evaluation would be a good place to start.

2. Fruit, vegetables, and greenhouse growing

The horticulture sector offers an opportunity to apply the existing successful project methodology to a new, but similar, set of problems. Agricultural policy issues related to importation of inputs and exporting horticultural products need to be addressed. Land O'Lakes has a demonstrated capacity and excellent relationships in place for this purpose. The association model of producer organization is suitable to address a variety of problems including input supply, infrastructure, training, marketing, and negotiations with brokers and processors, and with government on policy issues.

High value horticulture is a natural area to investigate seriously in a small country with highly varied agro-climatic zones. Montenegro has been famous in the past for its horticultural produce, and it once enjoyed profitable markets such as the Dalmatian Coast and the larger cities in Bosnia, Croatia, and Slovenia. Fresh produce was apparently flown to Belgrade at one time. These markets have been lost to other suppliers in the disastrous war years; whether they could be reentered successfully is unknown at present. The government has made a substantial investment in a packing,

marketing and processing facility on the plain near Podgorica, but it is unclear exactly what the development plan for this facility might be, how it will be managed, or what role it could play in future project activities.

The potential to increase value per unit of land through greenhouse growing has obvious appeal, given Montenegro's very limited arable land resources. Greenhouses do not require high quality soils, and sunlight is abundant to help minimize heating costs, particularly in coastal areas in the south. The potential to produce exists. Where are the markets? How will produce be delivered in such a way as to maintain product quality, given the very limited means of transport available? These are difficult questions, and no answers are available at present. Once again, an expert assessment of market potential would be the best way to start.

3. Agro-tourism

This field is quite different than other agricultural sectors. It involves entirely different sorts of development problems, market strategies, and technical expertise. Whether Land O'Lakes is the right player to lead a program of agro-tourism development is debatable. The program could certainly make significant contributions to such an effort based on existing relationships and knowledge of the agricultural sector. However, impact is likely to be limited to a few areas, and market development may be slow.

Nonetheless, agro-tourism is a hot topic in Montenegro. The katuns are picturesque in many areas, the countryside is beautiful, there is potential for hunting, fishing, hiking, river rafting, and possibly other sports. Traditional foods, costume, architecture and music deserve to be maintained as part of the historical record of the country, but they are fading unless some incentives are created, possibly through agro-tourism, to revive these traditions and pass them on. There is a class of tourist who is undeterred by bad roads, limited facilities, and lack of creature comforts. Montenegro is one of the few remaining places in Europe where the old ways of rural life may still be found.

However, there are significant obstacles to rapid development of this type of tourism. Infrastructure is lacking to provide even basic comforts, such as potable water, showers, and sanitary facilities in the high mountain areas. Roads are bad and the drive from the coast is long. New construction does not respect traditional styles and building materials, and the appeal of many areas is deteriorating because of this. Despite the fact that Montenegrin hospitality is second to none, rural people are not experienced in dealing with tourists and providing commercial services.

Once again, an expert assessment of market potential and problems would be a good place to start. Even more than the other possibilities discussed here, a false start with tourism could have negative repercussions on the potential for development of the industry for some time to come.

In all three cases, marketing expertise is the highest priority requirement for any consultant engaged to evaluate potential of these industries.

VI. Conclusions and Recommendations

1. The project has exceeded the original target results and all expectations in the areas of agricultural policy reform and association development. Substantial accomplishments in these areas deserve continued support to consolidate results for enduring effect.
2. Dairy production in both the traditional and formal sectors is increasing. Technical assistance from Land O'Lakes has covered the spectrum of needs in this area, well beyond the proposals of the original project plan. Sustainable institutional development is the most substantial and potentially long lasting contribution of the project to greater productivity in the dairy sector.
3. The decision to put aside interventions in the sheep and goat subsector was well-founded, and permitted focusing of project resources on those aspects of the dairy industry which offered far greater development potential in both the near and long term.
4. The Dairy processing industry stands at the threshold of successful, competitive free-market operations. Land O'Lakes has largely engineered this complex transition with effective cooperation from the EU and the strong leadership of the Minister of Agriculture. Measurable results in dairy processing are already found in the revitalization of existing facilities and the rapid expansion of several small private processors. But the real impact of the groundwork accomplished thus far by Land O'Lakes is about to become evident in the coming year, as players in the industry move to quality-based milk prices negotiated between producers and processors.
5. Although by most measures the project has accomplished the results it set out to achieve, the most important part of the work remains to be done. Since institutional development has been the foundation of project success, ensuring the sustainability of these institutions, which are based on western, free-market models and are quite novel in Montenegro, is now of the highest priority. All players in the industry were unanimous in interviews during this evaluation in their strong desire for continued support from Land O'Lakes as they attempt to internalize and institutionalize the lessons learned in the last two years. Many of the most significant institutional developments have occurred during the last six months of 2001, leaving very little time for project support during this process.
6. Ongoing support is needed in the following areas:
 - Strengthening of internal controls, management practices, and member participation in the Farmers Association movement at all levels (NFA, FTA, FAs) to ensure the sustainability of the broad range of services these institutions now provide;

- Assistance to dairy processors to enable them to adapt to new rules and regulations, new producer relationships, and the rigors of a competitive marketplace, and for implementation of quality based milk prices, including technical support for the national milk quality testing laboratory, and an "honest broker" role in the negotiation of milk prices between processors and producers associations;
 - Continuing technical assistance to the Government of Montenegro for recently developed essential services in support of the dairy sector, including the national milk quality testing laboratory, the Selection Service, privatization of A.I. and other veterinary services, and market reforms, like tariff policy, which are still on the negotiating table.
7. Opportunities may exist for Land O'Lakes to build upon existing relationships and knowledge gained for interventions in support of other agro-industries. These include:
- Meat, hides, and wool production in the livestock sector;
 - Fruit and vegetable production, processing, and marketing, particularly high-value horticulture and greenhouse growing;
 - Agro-tourism.
8. The foundations for new institutions in the dairy sector have been established. It is probable that the project could now provide the support necessary to consolidate achievements to date, bring the potential of these new institutions to fruition, and still successfully undertake new interventions. Any interventions in new sectors should be prefaced by expert technical assistance in market assessment, since marketing presents a number of difficult problems under present circumstances in Montenegro.
9. The program should seek additional funding for a minimum of 18 months if the sole objective is to complete and consolidate achievements to date. A time horizon of 36 months would be minimal if new interventions are proposed, particularly if these interventions will be based on new efforts in association development and institution building, rather than upon existing relationships with the Farmers Associations.

ANNEX A

Results Matrix

Appendix A
Results Matrix I
Mid-Term

Mid-Term Goal	Result	Notes
Establish Policy Task Force	GoM committed to Milk Price and Dairy Sector Subsidy Reforms. EU loan conditionalities support Policy Reforms in accordance with project recommendations. Workshops on Policy Reforms led by Paul Christ, former LoL V-P for Dairy Policy.	Minister of Agriculture personally committed to support of Policy Reforms.
Dairy Processors profits increase 5% over baseline	Baseline profitability roughly estimated by J. Raoul-Duval study. No current profitability data available. Policy and market environment insufficiently developed to motivate significant changes in commercial processor operations – subsidies and quotas encourage status quo. Evidence shows increase in larger farm milk production of about 20%, with resulting increase in flow to processors. Traditional cheese makers benefit from project sponsored Cheese Competitions to increase sales, and are therefore encouraged to increase production.	Activities supportive of commercial processors include: <ul style="list-style-type: none"> • Consumer Survey • Market Price Survey • Milk Quality Testing • HACCP Training • New Product Development • Trade Contacts for Equipment Activities supportive of informal sector processors include: <ul style="list-style-type: none"> • Cheese Competitions • Farmers Associations for dairy production inputs (esp. feed)
Five new profitable SMEs created in Dairy Processing	22 Farmers Associations (FAs) engaged in farm supply business, primarily livestock feed. Plav cheese production facility back in operation. Business study assistance to Lim Valley Dairy Project underway. Mini-Dairy Study indicates operations are not profitable.	Farmers Associations (FAs) capitalized thru Cooperazione Italiana seed money of \$75,000. Turnover exceeds \$200,000 in first six months. Business feasibility study discourages unprofitable state investment in Chervo.
75 farms increase profits 10% over baseline. 5 milk collection points established.	Farm profitability data unavailable. No milk collection points established because dairy sector policy provides no incentives for producers or processors to worry about milk quality	Farm Records System and DHIA analytical software introduced to assist in breed improvement will eventually make assessment of farm level production possible.
25% of milk producers increase production 10%	Farm level production data unavailable. Anecdotal evidence shows roughly 20% increase in milk production on farms touched by project interventions.	Activities in support of increased milk production include: <ul style="list-style-type: none"> • Feed Supply thru Farmers Assoc. • Introduction of concentrates • Barn design improvements • Forage Crop improvements • Artificial Insemination Program • DHI thru Selection Service • Farm Recordkeeping System
10 informal associations established	22 Farmers Associations formally registered and engaged in livestock feed supply. National Association of Fas established.	More than 2,000 farmers join FAs. Statutes and By-Laws establish democratic management rules and processes.
1 new service per association	Farmers Associations supply feed to members.	Feed cost decreases between 20% and 30% due to FA trading.

Results Matrix II

As of End of Year 2001

End of Project Goal	Results	Notes
\$1 million shifted to livestock sector support through policy reforms	<p>Savings in Ministry of Agriculture (MoA) budget from elimination of Dairy Sector subsidies and Milk Price supports of almost US\$ 1 million.</p> <p>MoA invests in services in support of private sector dairying in the form of (investment/annual operating cost):</p> <ul style="list-style-type: none"> • Milk Quality Testing Lab (\$600K/\$150K) • DHI Selection Service (\$150K/\$225K) • Veterinary Service (\$150K for equipment) 	<p>Dairy Industry Policy Reforms include:</p> <ul style="list-style-type: none"> • Farm gate & retail price controls removed • Producer and Processor fluid milk subsidies removed • Processor quotas for fluid milk eliminated • Tariff protection eliminated
Dairy Processor profits increase 10% relative to Baseline	<p>Commercial Dairy Processor financial data unavailable at time of evaluation.</p> <p>National Dairy Processors Association very active in development of Milk Quality Standards for the purpose of quality based milk pricing. Milk Testing Laboratory is functional so that processors can evaluate quality based on new standards.</p> <p>New products coming to market : mozzarella, Kajvar, yogurt with fruit.</p> <p>Traditional processors realizing significant increases in cheese production and sales due to Cheese Competitions, and quality improvements as well. See Appendix B Table B-5 for Cheese Producer Income data.</p>	<p>Changes in Dairy Sector Policy and market environment motivate processors to adopt modern competitive practices:</p> <ul style="list-style-type: none"> • Quality based milk prices to producers • New Products at retail <p>EU equipment loans benefit 3 small dairies for rapid expansion. Growth of small private dairies indicates profitability is very positive.</p>
At least 15 new processing SMEs	<p>29 Formally registered Farmers Associations engaged in farm supply business. Turnover exceeds \$1 million.</p> <p>Farmers Trading Association registered as commercial import company, providing livestock feed, farm equipment, vet meds and other supplies to FAs. Turnover exceeds \$600,000 in first six months of operations.</p> <p>Plav Dairy resurrected and producing cheese.</p> <p>Simsic Dairy expanding from 2,500 l/day to 10,000 l/day.</p> <p>Arena Dairy expanding from 2,000 l/day to 2,000 l/hour.</p> <p>Lim Valley Dairy in Berane in advanced stage of development.</p> <p>Bijelo Polje dairy resurrected with Lux Dev't assistance.</p> <p>Niksic Farmers Association negotiating to purchase former State Dairy there.</p> <p>TA and HACCP training provided to 8 other dairies as well.</p>	<p>Dairy Processing likely to remain highly competitive for the foreseeable future, both internally and with regard to Serbian and imported products. LoLM has contributed to milk quality, equipment and product knowledge. HACCP training provided to almost all dairies in Montenegro. National Dairy Processors Association members requesting assistance in plant management, milk pricing, marketing, and financial management.</p>
<p>Assets on 250 farms increase 10%</p> <p>15 producer collection points established</p>	<p>No data on farm assets available. \$500,000 earmarked from monetization revenue for farm equipment, preliminary tenders let for \$250,000 by National Farmers Association for importation thru FTA for milking machines, hay making equipment, tractors, farm implements and milk cooling tanks.</p> <p>Improvements in barns and new barns on 145 farms.</p> <p>No collection points established as yet, but policy and market environment are more favorable now than ever before. Introduction of Milk Quality Standards and quality based pricing will happen shortly, creating real motivation for collection points.</p>	<p>NFA assets projected to exceed DM 1 million by end of project.</p> <p>Project works with 66 farms with more than 40 liters of milk production per day/10 milk cows, i.e., farms that are on the road to commercial dairy production (compared to only 22 farms at the beginning of project). Dairy processors are beginning to implement a stop charge to encourage development of collection points.</p>
50% of milk producers increase production by 10%	<p>Reliable production data not available. Collection data from processors indicate increases of 4% to 14% for some areas.</p>	<p>Farm record keeping system introduced by LoLM on 875 farms: will produce more</p>

	<p>Anecdotal evidence shows milk production increases of 20% from improved feed rations, forage and pasture quality and AI services.</p> <p>Cheese producers adding livestock to increase production in response to marketing success of cheese competitions.</p>	<p>reliable farm level data in the future.</p> <p>Project focus on animal nutrition, health, husbandry, and breed improvement will increase milk yields.</p>
5 formal associations established	<p>29 FAs and the National Farmers Association (NFA) are registered as NGOs. Recent elections produced 57% turnout to vote.</p> <p>Farmers Trading Association (FTA) is registered as commercial import/export company, with over US\$ 600,000 in turnover in first six months of operation.</p> <p>3 Cheese Producer sub-groups established, creating nucleus of women's group movement based on NFA/FA.</p>	<p>FAs and NFA are introducing:</p> <ul style="list-style-type: none"> • Democratic principles • Transparent Management • Financial Reporting & Accountability <p>High profile and success of NFA and member associations is clear from participation of President of the Republic in National Convention and Trade Fair.</p>
Each association provides at least 2 new services to members	<p>NFA/FTA/FA network actively engaged in:</p> <ul style="list-style-type: none"> • Farm supply (livestock feed, seed, fertilizer, vet meds, farm equipment) • Breed improvement through AI services and importation of semen • Milk price negotiations with processors since liberalization of dairy sector • Marketing of lamb and wool • Conduit for GoM services and support to farmers • Facilitate training by LoL/M and other donor organizations; • Soon will take over publication of Novi Katun, educational bulletin 	<p>NFA/FA network beginning to operate on a sustainable commercial basis to provide inputs, equipment and services to members and other farmers.</p> <p>FTA engaged in importation and distribution of feed, seed, fertilizer, etc. on sustainable commercial basis. Potential for significant role in marketing and eventually export of farm products.</p>

Results Matrix III

Innovative Accomplishments

Project Output	Result	Notes
Liberalization of Dairy Sector Policy, Free Market reforms	<p>GoM eliminates :</p> <ul style="list-style-type: none"> • Milk Price controls • Dairy Processor fluid milk quotas • Subsidies to both dairy producers and processors • Tariffs on imported dairy products <p>These changes in policy will greatly affect the market environment in which the industry operates, motivating numerous changes in behavior of both milk producers and dairy processors.</p>	<p>Strong leadership from the Minister of Agriculture and collaboration of the EU have enabled the project to successfully encourage free market policies and reforms. These reforms have saved the budget of the MoA over US 1,000,000 per year.</p> <p>GoM has accepted principles of free market role of government as provider of common goods rather than producer and regulator of the economy.</p>
Farmers Trading Association	<p>Commercial entity capable of delivering goods and services to farmers throughout Montenegro with significant results:</p> <ul style="list-style-type: none"> • Feed costs decreased 30% compared to private traders • Supplanting inefficient Zadruga (state cooperative) system • Responsive to FA member needs – adding services as needed • Capitalized from monetized USDA commodities • With proper management, as sustainable as any business 	<p>Rapid rise of FTA (\$600,000 turnover in first six months of operation) shows real need for this service. Commercial basis not yet fully established, since MoU basis for capitalization was not purely commercial, NFA does not yet see the FTA as a purely commercial activity. Need for ongoing technical assistance and training is evident.</p>
National Milk Quality Testing Laboratory	<p>Creates the possibility of quality based milk pricing, therefore:</p> <ul style="list-style-type: none"> • Moves farmers to improve production practices to maintain quality of milk • Encourages establishment of collection points • Improves quality of products and therefore competitive position of Montenegrin industry relative to Serbia and imports 	<p>Lab has become operational only last November. Creates radically new situation in dairy industry with implications for both producers and processors.</p> <p>National Milk Quality Standards not yet established. Practical implementation of mechanisms for milk price negotiations and quality controls still needed.</p>
National Forage Testing Laboratory, Improved Forage Crops and Feed Rations	<p>Improved nutrition is an important element in increased milk production. LoL/M has worked with farmers to evaluate the quality of their forage, introduce improved forage crops (Legend Alfalfa), and train farmers to prepare better quality feed rations based on available forage, feed grains, and concentrates.</p>	<p>The scientific basis of this work, and potential to continue to improve knowledge in this area, is based on the Forage Testing Lab and related calibrating equipment installed by LoL/M in the MoA.</p>
National Selection Service & Farm Record Keeping System	<p>Establishes a scientific basis for improved dairy cattle based on imported semen and local breeding.</p>	<p>Unbiased data on animal productivity provides a better basis for farmer breeding and animal purchase decisions.</p>
Private Artificial Insemination Services	<p>In response to farmer complaints regarding poor AI service from the State Veterinary Service, project trained 32 technicians for AI and provided basic equipment needed for this service.</p>	<p>MoA plans to gradually privatize all AI and Veterinary Services beginning in 2002. Recognizes that quality of service is better from private providers, State budget will benefit.</p>
Women's Groups	<p>Three women's groups formed as sub-chapters of Farmers Associations in three different municipalities. Groups have common interest in cheese making and marketing.</p>	<p>Unexpected and spontaneous benefit from Cheese Competitions, with potential to open avenue for training and services to rural women who are otherwise very isolated and difficult to reach because of Montenegrin traditions.</p>

ANNEX B

Dairy Sector Data

Appendix B

Table B-1

Milk Collection Data

Dairy Plant	1999 Average Number of Farmers	1999 Quantity of milk Tons	1999 Average quantity in Liters per farm	2000 Average Number of Farmers	2000 Quantity of milk Tons	2000 Average quantity in Liters per farm	2001 Average Number of Farmers	2001 Quantity of milk Tons	2001 Average quantity in Liters per farm
Podgorica	2672	11951	4473	2623	12771	4869	2890	14428	4992
Simsic	70	375	5357	140	770	5500	190	1107	5826
Arena Milk	75	657	8760	75	711	9480	71	807	11366
Pljevlja	890	1896	2130	902	1934	2144	898	1690	1882
TOTAL	3707	14879	4014	3740	16186	4328	4049	18032	4453

Table B-2

Average Annual Growth Rates in Milk Collection

Average Annual Growth Rates 1999-2001	Average Number of Farmers	Quantity of Milk Tons	Average Quantity in Liters per Farm
Podgorica	4.2%	9.9%	5.7%
Simsic	67.9%	74.5%	4.3%
Arena Milk	-2.7%	10.9%	14.1%
Pljevlja	0.5%	-5.3%	-5.8%

Table B-3

Changes in Herd Size & Numbers of Larger Dairy Farmers

Municipality	1999 Farmers with more than 5 cows	2001 Farmers with more than 5 cows	Change in number of farmers	% change	1999 Total cows in herds with more than 5 cows	2001 Total cows in herds with more than 5 cows	Change in number of cows in larger herds	% change
ANDRIJEVICA	3	10	7	333	17	62	45	365
BAR	3	19	16	633	23	118	95	513
BERANE	14	82	68	586	84	524	440	624
BIJELO POLJE	8	152	144	1900	43	1028	985	2391
BUDVA	8	13	5	163	58	105	47	181
CETINJE	56	79	23	141	320	528	208	165
DANILOVGRAD	34	35	1	103	258	257	-1	100
HERCEG NOVI	0	16	16		0	98	98	
KOLAŠIN	33	82	49	248	186	532	346	286
KOTOR	0	17	17		0	103	103	
MOJKOVAC	40	101	61	253	212	613	401	289
NIKŠI	70	399	329	570	488	2738	2250	561
PLAV	5	50	45	1000	28	315	287	1125
PLJEVLJA	134	215	81	160	758	1355	597	179
PLU INE	82	101	19	123	467	631	164	135
PODGORICA	78	86	8	110	476	564	88	118
RO AJE	15	88	73	587	110	559	449	508
ŠAVNIK	121	156	35	129	633	952	319	150
TIVAT	0	4	4		0	24	24	
ULCINJ	85	76	-9	89	602	512	-90	85
AB LJAK	44	53	9	120	246	324	78	132
Total	833	1834	1001	220	5009	11942	6933	238

Table B-4

Changes in Herd Size & Numbers of "Commercial" Dairy Farmers

Municipality	1999 Farmers with 11 or more cows	2001 Farmers with 11 or more cows	Increase or decrease in number of farmers	% change	1999 Cows in herd of 11 or more	2001 Cows in herds of 11 or more	Increase or decrease in number of dairy cattle	% change
ANDRIJEVICA		1	1			11	11	
BAR			0				0	
BERANE	1	4	3	400	11	48	37	436
BIJELO POLJE		7	7			81	81	
BUDVA		2	2			23	23	
CETINJE		4	4			49	49	
DANILOVGRAD	4	4	0	100	63	66	3	105
HERCEG NOVI			0				0	
KOLAŠIN		2	2			27	27	
KOTOR			0				0	
MOJKOVAC			0				0	
NIKŠI	2	14	12	700	27	218	191	807
PLAV		1	1			13	13	
PLJEVLJA		5	5			62	62	
PLU INE	2	4	2	200	24	51	27	213
PODGORICA	2	6	4	300	23	76	53	330
RO AJE	2	5	3	250	28	61	33	218
ŠAVNIK		2	2			22	22	
TIVAT			0				0	
ULCINJ	9	4	-5	44	126	49	-77	39
ABLJAK		1	1			11	11	
Total	22	66	44	300	302	868	566	287

Table B-5

Cheese Producer Income

Cheese Producer	Municipality	Cheese Production (kg) 2001	Cheese Price (DM/kg)	Cheese Income 2001
Svetlana Milosevic	Kolasin	1800	6	10800
Zukovic Obrenija	Pljevlja	855	5	4275
Zukovic Zagorka	Glibaci	1744	5	8720
Petrovic Milka-Jagos	Pljevlja	1739	5	8695
Cmiljanic Kica	Pljevlja	2785	5	13925
	Totals	8923 kg		46415 DM

ANNEX C

Persons Contacted

ANNEX C

Persons Contacted

In addition to Dr. Roger Steinkamp and his staff at the Land O'Lakes field office in Podgorica, the following persons and organizations were contacted during the course of this evaluation:

1. Mr. Paul Christ – telephone interview 1/18/02
2. Mr. Bob Albrecht – telephone interview 1/18/02
3. Svetlana Milosevic – cheese maker of Kolasin
4. Farmers Association Warehouse Manager of Mojkovac
5. Farmers Association of Stiteri
6. Farmers Association of Berane
7. Mr. Dragoljub Nenezic, Interim Manager, Farmers Trading Association
8. Mr. Veso, President of the National Farmers Association
9. Mr. Miodrag Vujovic, Director, Montrev (Auditing Firm)
10. Mr. Zoran Adzic, Director, Podgorica Dairy & President of the National Dairy Processors Association
11. Mr. Milutin Djuranovic, owner, Simsic Dairy of Danilograd
12. Farmers Association of Tomasevo
13. Private veterinary service in Ulcinj
14. Mr. Mavric Nizami, owner, Arena Dairy, Ulcinj
15. Mr. Radko, President of the Horticultural Association
16. Minister Simovic, Ministry of Agriculture
17. Mr. Andrew Vonnegut, USAID Private Sector Advisor
18. Mr. Basile Kotschoubey, European Union advisor to the Ministry of Agriculture

APPENDIX B

List of Consultants Who Provided Assistance to the Project

CONSULTANT LIST BY YEAR

1999

- Baseline Study – Lucie Ferrier-Steinkamp

2000

- Project accounting training – Dorel Jurcovan
- Artificial Insemination training – Chris Kurth
- Dairy economic study – Juliet Raoul-Duval Diereck
- Equipment design and analysis – Peter Dode
- Alfalfa Production – Endre Kovacs
- HACCP analysis – Barry Vermilyea
- New product development and yogurt production – Linda Richardson Casella

2001

- Artificial Insemination follow-on – Chris Kurth
- Animal nutrition – Bob Albrecht
- Association building – Elwin Guild
- Body condition scoring/hoof trimming – Dale Dunivan
- Dairy Comp 305 training and reporting – Jeff Lerum
- Milk testing laboratory start-up/operation – Muril Neibuhr
- Yogurt/mozzarella making practices – Bill Broske
- Extension service analysis – Gene Kuntz
- Follow-up on alfalfa production – Endre Kovacs
- Training on using the FOSS forage tester – Stefan Lundgren
- Dairy Policy Analysis and seminar – Paul Christ
- Follow-on milk pricing analysis and seminar – Paul Christ

2002

- Analysis of association and FTA accounting – Dorel Jurcovan
- Quick Books accounting set-up and training for associations – Randy Willard
- Project Evaluation – Greg Kruse

APPENDIX C

Letters of Support

National Farmer Association of Montenegro

To: Ambassador William Taylor
CC: Ambassador William Montgomery

Dear Ambassador Taylor,

I'm writing to you in the name of 12,000 Montenegrin farmers whose representatives, elected locally in democratic elections, are asking for your support.

The NFA board, meeting in Kolasin on April 28, 2002, unanimously passed a resolution to solicit your help in requesting an extension of the Land O'Lakes Project for at least two years.

Starting in 1999, Land O'Lakes started its project in Montenegro, a country of many ethnic groups and has achieved a high degree of success in technical assistance. Thanks to Land O'Lakes, associations were formed throughout Montenegro irrespective of political, ethnic and religious concerns. Montenegrin farmers organized 33 associations to improve agriculture that is an important sector of the economy from which over half of the population gains their livelihood.

With Land O'Lakes help we, Montenegrin farmers, were able to attract substantial economic assistance from several donor agencies. The most important assistance came this year from the US government in which 12,000 tons of corn and 4000 tons of SBM were sold to our members and the proceeds stayed in our local accounts to serve as operating capital for the Associations. This will help us improve agriculture in Montenegro.

From the beginning the local associations have made over \$2 million in gross sales to members by turning over these funds. Now we are starting to improve the profitability of families that depend on agriculture but we feel that the presence and organizational help of Land O'Lakes is necessary. This is critical because we feel that interrupting their technical help at this point will stall the development of agriculture and destroy the gains we have made to this point. We are just starting the improvement of production, processing and distribution of our products by extending credit to our members. We need Land O'Lakes, an experienced and successful company in the United States, to support us in our venture.

Because of this, Mr. Ambassador, we are asking your support to convince USAID of the importance of agriculture production which impacts on over 60,000 families and in order to arrive at a just decision that the Land O'Lakes project should continue to be financed.

Yours Truly,

Veselin Jovanovic, President
National Farmer Association

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Government of the Republic of Montenegro

Prime Minister

Podgorica, 05th April, 2002

To: Ambassador William Taylor

Coordinator for US assistance to Europe and Eurasia Amb.

OFFICE FOR US ASSISTANCE TO EUROPE AND EURASIA

(EUR/ACE)

US Department of State

Ambassador William D. Montgomery

Chief of Mission

United States Embassy, Belgrade

CC: Spike Stephenson

Chief of Mission/USAID, Belgrade

Howard Handler

Officer-in-charge/USAID, Podgorica

Dear ambassadors Taylor and Montgomery,

On June 15, 2002, the USAID financing of the project Land O'Lakes Montenegro is to be brought to a close due to limited duration of financing of this project. It is not good news for Montenegrin agriculture. Thanks to the Land O'Lakes we have made a very successful beginning in modernization of Montenegrin agriculture, we have met the principles of free market, and what is most important, we have begun changing the mentality and way of thinking of our farmers, businessmen, citizens and politicians. I am convinced that premature closing of this project would create a risk for already unstable market that the Land O'Lakes successfully established throughout Montenegro.

Contribution of the project Land O'Lakes Montenegro is significantly larger than just support to productivity and improvement of quality of our dairy sector. The greatest contribution of the Land O'Lakes is promotion of economic reforms. The greatest accomplishments of the project lie in successful promotion of the concept of free market, independent associations of farmers and greater transparency of rural population. The project of the Land O'Lakes has helped in changing the disposition of the most conservative part of Montenegrin population. The closing of the project the Land O'Lakes Montenegro would create a gap; farmers and their associations would be deprived of great support as well as my Government that needs a stimulus for changes. Our persistence in implementation of reforms in agriculture would be extremely difficult without the Land O'Lakes. The roots of reforms in agriculture are still too weak and old way of thinking does not allow their more rapid strengthening. There is still much to be done. I believe that it would take at least two more years for Montenegro to reach the point when the process of changes would become self-sustainable. The Government of Montenegro needs the Land O'Lakes for successful completion of what we have begun together. That is the reason why I appeal to your assistance and I ask you to reconsider the decision to close the project Land O'Lakes Montenegro. I would particularly like to emphasize that it would be of great importance for my Government.

Speaking to the point, the Government of Montenegro asks for continuance of activities of the project Land O'Lakes Montenegro in the following fields:

- **Reform of the agrarian policy.** Continuance of training in calculation of milk prices, preparation of farmers for free market conditions and training of farmers for farm management. We would

also like to expand the same principles to other branches of agriculture. People are still afraid of free market, so we need the continued technical assistance in this transition. Finally, we need the expertise of the Land O'Lakes in our efforts to make our Central Laboratory for milk analysis entirely efficient and functional.

- **Strengthening of farmers' associations.** Continuance of support and constant monitoring of activities of president and Administrative Boards of associations in order to sustain democratic principles of managing associations and financial transparency thereof.

This is of crucial importance for establishing the atmosphere of confidence among farmers in market-driven institutions and between elected leaders of associations. The success of this effort would induce expansion of democracy to our villages as well.

Financial reports that officers of associations submit to members of the association on monthly meetings have born fruit since members control their activities thus. Officers of associations that managed the association improperly or even misused the money of the association have been removed from office by members of the association. It is a radical change in comparison with the previous practice and it is recurring in the positive sense.

The Land O'Lakes Montenegro has introduced the concept of cooperation that enables farmers to help themselves and it has introduced market mechanisms into agricultural production, as well. Thanks to the efforts of the Land O'Lakes Montenegro we now have 33 local associations of farmers with more than 9,000 members and their number is growing. In the previous year, associations have realized the turnover of goods (feeds and other agricultural inputs) worth more than 1,500,000 USD. This enabled the members the access to cheaper feeds and thus the speculations with feed prices on the market have been eliminated to the benefit of agricultural producers.

However, at the moment we are closer to the beginning than to the completion of this process of reforms and participation of the Land O'Lakes is necessary in order to make the new principles of transparency and responsibility our permanent ambition. My Government cannot work on this all by itself.

- **Technical assistance in production.** To continue training of dairy farms with aim to improve the quality and quantity of produced milk. On average, farmers that have adopted the advices given by the Land O'Lakes have increased the quantity and quality of produced milk per head. Number of farms with more than 5 cows has increased for more than 200 percents. Production of milk per head due to better nutrition balance has increased for 14 percents. The project also helped farmers to train in artificial insemination of cows. This is the key for improvement of genetic potential of cattle in Montenegro. But much more has to be done in this field if Montenegro still wants to accomplish the self-sustainable production of health suitability of so-called safe meat.
- **Technical assistance in processing industry.** To continue the training in financial analyses, quality control, marketing and development of new products. Assistance to processing industry in development of strategies of calculation of milk prices – purchase prices as well as retail prices in the free market conditions.

Agriculture is the strategic branch of development of Montenegro. The great significance is now given to development of tourism and privatisation of industry, but in all that we cannot ignore the development of rural area. Modernisation of agriculture would reduce the deficit in industry and that would enable employment of workers that have become technological surplus due to privatisation and beginning of market reforms. Encouraging them to return to villages and start cultivating the rich soil that has been unused for generations would help us solve a very serious problem of unemployment and expand the assortment of products on the market. The

Land O'Lakes has played a key role in promotion of free market of Montenegro with our farmers and businessmen. The Government of Montenegro needs the continuance of assistance of the Land O'Lakes in this field.

Generally speaking, reforms in agriculture have not been completed. On the contrary, it is a crucial point. Minister of agriculture and myself are of the opinion that agricultural reforms realized so far can be put to a risk without technical assistance and instructions that the project Land O'Lakes has given since 1999. Montenegro has not yet reached the point when we can be sure that farmers (who make about a half of the population) and dairies have adequate experience or knowledge to continue implementation of above-mentioned reforms. Assistance and instructions of the Land O'Lakes are critical factor in definition and implementation of reforms. That is why, with my highest regards, I ask for your assistance in continuance of the project Land O'Lakes and for assistance in maintaining the strong market and establishing of democracy in rural area that has been assisted by the Land O'Lakes.

Sincerely Yours,

Filip Vujanovic
President of the Government of Montenegro

Ms Janet I. Bogue
Deputy Assistant Secretary
Bureau of European and Eurasian Affairs (EUR), room 6226

Tel: 99-1-202-647-6415
Fax: 99-1-202-647-1315

On suggestion of Land O Lakes – Montenegro, Podgorica on date 2, Oct. 2000 was founded "Farmer Association of Berane".

They start with activities with 23 members, and they are one of biggest association in Montenegro, now. There are 1000 members, now. The goal of association is to support all farmers.

We are in very good cooperation with Land O Lakes, Ministry of Agriculture and Department for animals in Ministry of Agriculture. We are start with private veterinary service and our farmers can have good advising and support, now. With assistance of Land O Lakes we are organize some seminars for our farmers. It was seminars for insemination of cows, hoof trimming and seminar for planting alfalfa.

But we are on half planning road now, and because we are just start to develop our farms we ask kindly that prolonging project of Land O Lakes. It is only chance that our farmers can develop their business.

Members of Land O Lakes- Montenegro are our ambassadors and advisors, and because we now start with supply of equipments and building new dairy processors without their help we cannot finish our very important business.

In hope that you will support our request,

We kindly greeting you

Berane, 24 May 2002

Tel/Fax ++381 0871 35 929

Farmer Association of Berane

Kastratovi Jelena, president

APPENDIX D
PHOTOS



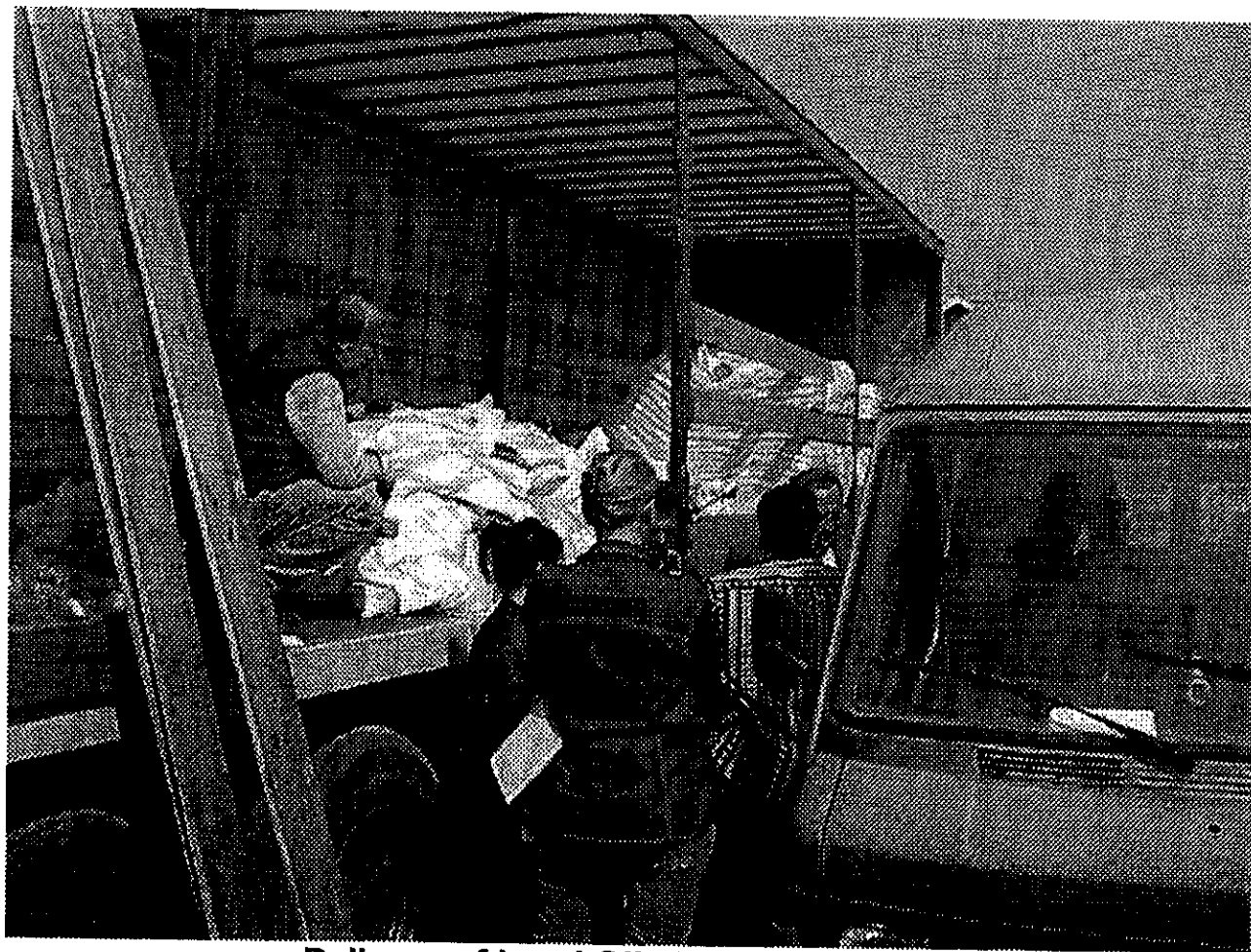
Woman working with tub of aging cheese



Association Formation



Cheese Competition



Delivery of Land O'Lakes Alfalfa Seed



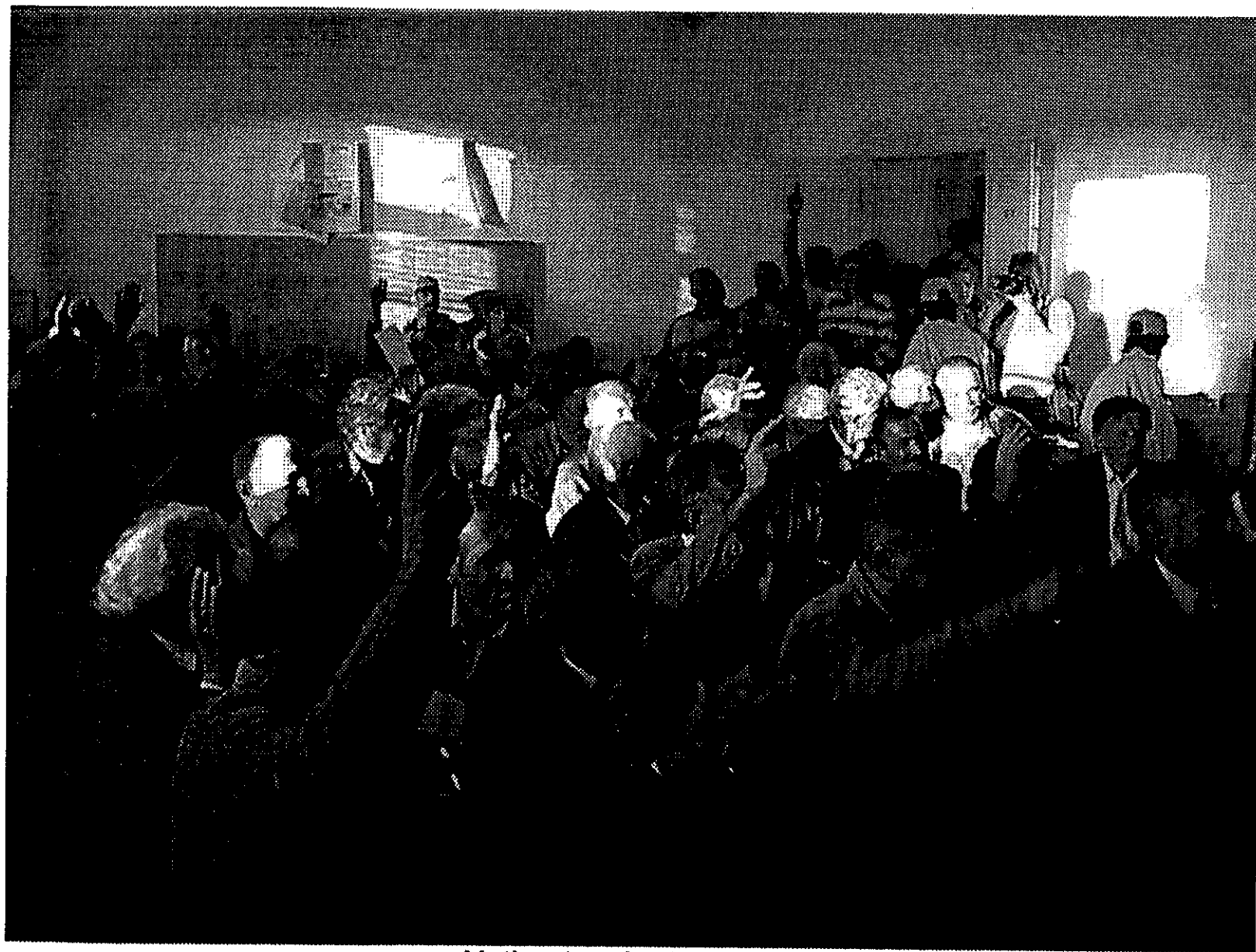
National Convention



One of the first associations



President Vujanovic speaking with a farmer



Voting to adopt statutes